

Air Conditioning & Refrigeration News

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REA Sponsors Appliance Tour In Rural Areas

Traveling Tent Show To
Open In Michigan
July 3

WASHINGTON, D. C.—The National Farm Equipment Tour, an electrical appliance tent show sponsored by the Rural Electrification Administration, will make its first appearance at Cassopolis, Mich. for a two-day stand July 3-4, launching an itinerary that will traverse several Middle Western and Southern states, closing near Fort Worth, Tex., Dec. 22.

The show will have a colorful caravan of 18 trailers, carrying exhibits contributed by leading electrical appliance manufacturers. The main tent is 150 x 47 feet. It will be used for household appliance displays and evening demonstrations with REA home economists in charge.

Feature of the show is a "midway" laid out along a power cable out of doors where all types of farm appliances are plugged in for demonstrations during the daytime. In an experimental tour through Iowa and Nebraska last fall the attendance averaged 1,000 at each demonstration stop.

The purpose of the tour, according to REA officials, is not only to promote sales and educate rural areas in the knowledge of the latest models and uses of major appliances, but to increase the number of dealers serving the farm market. One manufacturer last fall secured a dealer at every stop in Iowa and Nebraska.

The itinerary for the first part of the tour runs as follows:

July 3-4, Cassopolis, Mich.; July 6-7, Rochester, Ind.; July 10-11, (Concluded on Page 3, Column 1)

Monthly Sales Record Broken In Canada

LONDON, Ont., Canada—Shipments of household refrigerators during May were highest of any month in the history of Kelvinator of Canada, Ltd., and were more than double the shipments of May, 1938, reports J. S. Blay, general sales manager.

Orders received to May 31, covering the first eight months of the fiscal year, exceed the previous year's total by 32%. Dealers throughout the Dominion have been informed of the record in a "jumbo" telegram sent out from headquarters here.

Museum Men Hear Air Conditioning Is 'Giving Art Back To the People'

SAN FRANCISCO, June 26—Art is being "given back to the people" through the use of air conditioning in museums and libraries today, declared J. F. Kooistra, Carrier Corp. engineer, in an address before the annual convention of the American Association of Museums.

Stating that tests conducted by the Folger Shakespeare Library, Washington, D. C. showed that air impurities and adverse temperature and humidity were among the chief causes of the deterioration of art objects and rare books, Mr. Kooistra said:

"This means that many famous art objects and books are locked away from the public. Through air conditioning you can give art back to the people!"

He said a single air-conditioned display room in a museum would be much more effective than locked glass cases and would "give the tax

Frigidaire Slashes Price on Portable Air Conditioner

DAYTON, Ohio—An approximate price reduction of 20% on the Frigidaire portable, self-contained RSA air-conditioning unit was announced last week by H. F. Lehman, manager of Frigidaire's commercial and air-conditioning sales.

This reduction brings the suggested installed price, less wiring and freight, of the unit conditioner to a new low of \$319.50. The RSA unit, powered by the "meter-miser" rotary-type compressor, is adaptable to offices as well as to the home. Besides cooling for comfort, the unit provides for filtering, dehumidification, and circulation of air and is equipped with individual directional air control as well as thermostatic control of temperatures.

Crosley Car Debut In Macy's Basement Jams the Aisles

NEW YORK CITY—With 10 orders taken on the first day, 20 in the first five days, and demonstrations reported booked for two weeks in advance, Crosley's new bantam automobile proved a real crowd-stopper at its department store debut in Macy's "famous basement" last week.

Attracted by the novelty of a department store selling a car for less than \$400, approximately 10,000 persons crowded into the store to see the automobile on the first day of its showing, Macy executives said. This despite the fact that the midge cars have been on display at the World's Fair since it opened.

Bamberger's in Newark, N. J., a (Concluded on Page 11, Column 3)

Hickey Vice President Of Savage Arms

UTICA, N. Y. — Frederick F. Hickey has been elected a vice president of Savage Arms Corp., manufacturer of ice cream cabinets, plate assemblies, truck plates, etc.

Mr. Hickey has been with Savage Arms since 1921, when he was named works manager of the J. Stevens Arms division at Chicopee Falls, Mass., coming there from the New England Westinghouse Co.

In 1927 he was appointed general manager of Savage Arms, and has had general supervision of the manufacture and sales of Savage refrigeration equipment. Since 1936 he has been a director of the company.

paying art lover a much better break."

Quoting John McCabe, superintendent of buildings of the Cleveland Museum of Art, Mr. Kooistra said:

"The lack of comprehension of the effect of humidity and temperature, as well as air filtering and uniform conditions in museums, is the greatest stumbling block in the preservation of art objects."

He cited the loss of valuable records that were stored in a museum "under such conditions they are no longer serviceable." Improper air and humidity conditions have a "recognized destructive effect upon paper, textiles, leather, wood, adhesives, and some metals," he explained.

"Experiments conducted in our research laboratory at Syracuse, N. Y.," the speaker said, "have led to practical tests on the preservation (Concluded on Page 8, Column 1)

Cooling Dealers Association Puts Five on Council

Gay, Hessick, Smith, Page
And Bimel Appointed
To Temporary Body

DETROIT—Five new appointments to the temporary National Council of the National Air Conditioning Association have been announced by John H. Keller of Mechanical Heat & Cold, Inc., chairman.

Men selected to participate in activities of the council were Norman H. Gay, Gay Engineering Co., Los Angeles; Fred A. Hessick, president, Combustioneer Corp., Washington, D. C.; J. Ralph Smith, Combs Lumber Co., Lexington, Ky.; Carl Bimel, the Bimel Co., Cincinnati; and Jesse W. Page, Page-Williamson, Inc., Charlotte, N. C.

Norman Gay has been active in the refrigeration industry for many years and is now Carrier distributor for 11 western states, with headquarters in Los Angeles. Mr. Gay was appointed to the council at the suggestion of Edward C. Flynn, president of the Air Conditioning & Refrigeration Association of Southern California.

Mr. Flynn reports that Mr. Gay has been very active in association work on the west coast and that his experience in the industry will prove invaluable to the national association. The west coast group plans to have a regional meeting later this year, embracing air-conditioning associations in Los Angeles, San Francisco, Sacramento, Seattle, Tacoma, and other west coast cities.

Fred A. Hessick is president of the Combustioneer Corp. of Washington, D. C. (Westinghouse distributor) and currently president of (Concluded on Page 2, Column 1)

Dealers on Coast Fight 'Free Goods' Deals

OAKLAND, Calif. — The "free goods" problem in appliance merchandising has raised its head here again, according to a recent bulletin of the Appliance Dealers Protective Association of Alameda and Contra Costa counties.

The association, which has been markedly successful in keeping appliance sales practices on an equitable and profitable basis in this community, suggests in the bulletin that association members tell consumers "the cold blooded truth" that they are really paying for these extra items, and to avoid the use of the word "free" in all events.

Text of the bulletin follows: "For three years merchants of this community have been blessed with a freedom from the curse of 'free goods.'"

"But it appears that we have been (Concluded on Page 11, Column 2)

Stewart-Warner Cuts Prices on Ranges

CHICAGO—Price reductions of from \$5 to \$20 on its electric range models were announced last week by Stewart-Warner.

Factory list price on the \$119.50 range has been cut to \$99.50; the \$129.50 unit has been reduced to \$114.50; the \$138.50 unit will sell for \$132.50; the \$164.50 unit for \$159.50; the \$199.50 unit for \$190.50; and the \$269.50 range for \$249.50.

Announcing the price reductions, Robert Bronhouse, range sales manager, told distributors, here to look over new radio models, that electric ranges are growing in demand. Largest mail-order chain now is actively promoting this item, he said, and reports are that a large syndicate plans to enter the range field.

Ray Polley Named Ansul Manager In Southwest

MARINETTE, Wis.—Ray Polley, formerly sales manager of the commercial refrigeration division of Mills Novelty Co., has been appointed district manager for Ansul Chemical Co., manufacturer of refrigerants, in the southwestern territory.

The territory consists of Texas, Louisiana, Mississippi, Arkansas, Oklahoma, and the western part of Tennessee.

One of the real "old timers" in the electric refrigeration game, Mr. Polley started his refrigeration career in 1923 as a distribution (Concluded on Page 11, Column 1)

ASRE Educational Group To Survey Trade Schools

STATE COLLEGE, Pa.—Prof. F. C. Stewart of the Department of Mechanical Engineering, Pennsylvania State College, and general chairman of the Educational Committee of the American Society of Refrigerating Engineers, has announced the assignment of members of the committee to two main projects which will be undertaken during the coming year.

Project No. 1 will be a survey of instruction given on refrigeration and air conditioning by various colleges, correspondence schools, and trade schools. This survey will include an investigation of text material and equipment available for instructions with particular reference to the following items:

- Objectives of instruction (such as fundamental and academic, application or trade).
- Text material covered (such as text and page assignments and subject matter).
- Total time in hours for instruction (such as per cent of time in class room, per cent of time in laboratory).
- Percentage of total number enrolled who complete the instruction or course.
- Is the course of instruction (Concluded on Page 11, Column 5)

Salesmen's Basements Are Showrooms For Used Refrigerator Dealings

By Robert M. Price

NEW ORLEANS—Basement display rooms in the salesmen's own homes are used to sell used refrigerators for Grunewald's, Kelvinator dealer here. Prospects are brought to the salesmen's homes by classified advertisements—advertisements paid for by the salesmen themselves.

Refrigerators taken in trade are first cleaned and put in first-class condition. A salesman agrees to take the box to his home, display it in his basement, and through advertising make a personal deal with a used refrigerator customer. His commission on the sale covers expenses.

Very often the salesman's wife is enlisted to help sell the box, and many sales are made through these "housewife to housewife" contacts. If the prospect does not buy, the name is taken for a follow-up by the salesman. Very often only the license number of the prospect's car can be learned, but salesmen trace down the name from the license bureau.

Refrigerators so displayed are not in running order. If a deal is made, the refrigerator is reconditioned by a reliable service man who does all of the store's work. He agrees to supply the running guarantee. So well are the salesmen conversant with reconditioning costs that net prices can be at once quoted to the customer, the actual mechanical work being done later.

Trane Will Sell 2 Refrigerating Machine Lines

Reciprocating Compressor,
Sealed Centrifugal
Units Introduced

LACROSSE, Wis.—The Trane Co., which has hitherto confined itself to the manufacturing of heat transfer equipment (evaporators or "low sides") for the refrigeration and air-conditioning industry—is now introducing a series of conventional, reciprocating refrigeration compressors for applications of from 3 to 50 tons, and the Trane "Turbovac," a hermetically sealed centrifugal compressor for water chilling work in heavy-duty air-conditioning installations.

Also announced is a line of self-contained air conditioners, a "store cooler" type of the typical vertical cabinet design in 3 and 5-hp. models, and 7½ and 10-hp. models for application with ductwork.

There are a number of models in the reciprocating compressor line. The 3-ton compressor is a 3-cylinder model; for capacities from 5 to 25 tons Trane employs a 3-cylinder unit. The 30, 40, and 50-ton models consist of two compressors, each with three cylinders.

In these compressors both crankcase and cylinder body are built in one piece to assure proper alignment. Cylinders are vertical and in-line.

The top plate of the compressor head is unitary and may be removed (Concluded on Page 8, Column 4)

Cooling Encourages Judge To Hold Court In Summer

ST. LOUIS—Encouraged by the comforting effect of an air-conditioning system placed in his court room and chambers here, Federal Judge George H. Moore has arranged a civil docket for July and August, months it has been customary to adjourn court because of oppressive temperatures.

Many prospects for new refrigerators are gained from these home display rooms. The displaying salesman falls heir to these.

The whole trade-in policy of the store is run strictly on a "no-loss" basis.

"We don't trade for a nickel," claims R. H. Richaud, appliance manager. "When a prospect for a new refrigerator offers an old box in trade, we never offer to slice the price of the new box. We offer on the average of \$25 for the old refrigerator—but we offer to sell the traded box, giving the customer the added revenue we receive in the resale."

"We always can condition the box to sell for considerably more than the original offer of \$25, and we lose nothing, while the customer feels that she has received a present of all over the first offer."

The traded refrigerators are held until sold, no settlement being made until the resale. Some are sold through the salesman's home display room, some are sold from the store. All are advertised through the classified columns.

Mr. Richaud believes that if all dealers would treat trade-ins as a profit item, and not as a means to a quick sale through outlandish offers, the losses on trades would disappear and stability would enter the refrigerator market.

Air Conditioning

Keller Appoints Five New Members To Serve National Association Council

(Concluded from Page 1, Column 3)
the Air Conditioning Division of the Merchants and Manufacturers Association at Washington.

Mr. Hessick left high school in 1914 to start in the coal business for himself, with "a \$5 bill and two mules." Today he operates a commercial coal business doing a volume of over one million dollars per year in the city of Washington and his "Combustioneer Corp."—handling Combustioneer stokers and Westinghouse air-conditioning equipment—has reached a yearly volume of \$300,000.

Mr. Hessick has a great deal of faith in the future of air conditioning, and is particularly interested in the possibilities presented by the cooling of apartment houses in the Washington area. He believes that before many years have passed all apartments on the eastern seaboard will be equipped with complete air-conditioning systems.

Commenting on his appointment to the national council Mr. Hessick said that he would be willing to give any reasonable amount of time to association matters, but that running W. H. Hessick & Sons Co. and Combustioneer Corp. occupied a large portion of his time.

"I am association minded," Mr. Hessick stated, "and realize the amount of good that has been done by associations in the coal business. I believe the same applies to air conditioning and that members of the industry should band together for their own protection. It is going to take a lot of money, but I believe it will be worth it and I am willing to do my share."

As president of the Washington association, Mr. Hessick insists that the heads of firms in the association should attend meetings, rather than subordinates. He recently wrote all firms in the association as follows:

"Dear Sir:

"The air-conditioning meetings in the past have been mostly attended by subordinates rather than the executives of the companies.

"Inasmuch as there are many vital matters to take up regarding the industry, it is rather difficult to get anywhere with a group of men not having the authority to speak officially for their company. Therefore, it has been decided to hold no more meetings until officials of the companies can attend.

"When can your company be represented by an official with authority to act?"

FRED A. HESSICK,
Chairman"

Mr. Hessick reports that every firm in the Washington association reacted favorably to this letter and that all promised to send executives to association meetings having the authority to act for their firm.

J. Ralph Smith is head of the Kelvinator air-conditioning and refrigeration department of the Combs Lumber Co. of Lexington, Ky., where there is no local association, and has been identified with the industry in one capacity or another since 1916. While in high school Mr. Smith did some work on experiments in air conditioning which were conducted by the late F. Paul Anderson and Willis H. Carrier at the University of Kentucky.

After an extended career in the Army and Navy, where he did a great deal of electrical and refrigeration work on ships and submarines, Mr. Smith returned to civilian duty with the old Copeland Co. at Mt. Clemens, Mich.

Later he returned to Lexington, Ky. as manager of the Kelvinator department of the Combs Lumber Co. Mr. Smith has had a great deal of practical experience in the installation and operation of refrigeration

and air-conditioning systems, and in recent years has devoted the majority of his time to sales work.

Commenting on the appointment, Chairman John H. Keller of Detroit stated, "we are glad to welcome J. Ralph Smith to the national council as a representative of the type of firm that is becoming increasingly important to the air-conditioning industry. In proportion to the available market, the Kelvinator department of the Combs Lumber Co. has done a real job of marketing air-conditioning equipment and we are pleased to have Mr. Smith bring his long practical experience to the national council."

Jesse W. Page is vice president in charge of sales of Page-Williamson, Inc., Carrier distributor of Charlotte, N. C., and president of the Air Conditioning Association of North Carolina, Inc.

As president of the Carolina association, Mr. Page was instrumental in obtaining the passage of a favorable, well-drawn act "to create a state board of examiners of plumbing and heating contractors, and to license persons engaged in the plumbing and heating contracting business, as amended 1939."

According to Mr. Page the North Carolina bill clarifies the position of air-conditioning firms in North Carolina and protects their interests as individually licensed firms.

While the industry is still regulated by the plumbing and heating board of examiners, two new members have been added to the state board who protect the interests of air-conditioning firms in the state. These men are R. V. Sisk, Piedmont Engineering Co. of Charlotte, N. C. (Frick), who is vice president of the North Carolina association, and Dr. L. L. Vaughn of the North Carolina State College at Raleigh, N. C., who represents the people of the state. S. A. Sigler of Greensboro, N. C. is secretary and treasurer of the North Carolina association.

Mr. Page states that firms in the North Carolina association are well satisfied with the bill which permits the licensing of firms engaged in air conditioning and summer cooling separately from those engaged in plumbing and heating. The section devoted to "winter air conditioning" or forced warm air heating was dropped from the bill before it was passed, and the winter air-conditioning industry is to be regulated separately.

Mr. Page feels that a regional meeting of air-conditioning industry leaders should be held in the southeastern section before the end of the year, preferably in Atlanta. According to Mr. Page the southeastern section has its own peculiar problems which should be considered in the formation of a national association and discussed before any national organization is set up. Mr. Page has suggested to John H. Keller that such a meeting be scheduled for sometime during August.

Carl Bimel of the Bimel Co. has been a distributor of Frigidaire air-conditioning and refrigeration equipment for the past five years, and is president of the Air Conditioning Division of the Cincinnati Electrical Association. The Cincinnati association now has 22 member firms, of which part are associate members.

In addition to Frigidaire products the Bimel Co. markets Iron Fireman stokers, having sold as many as 550 units per year in the Cincinnati area.

"We are fortunate in having Carl Bimel on the national council as a representative of the industry in Cincinnati," Mr. Keller said. "He has stayed with the air-conditioning business during years when many dealers and distributors have given up accounts in the Cincinnati market. This indicates that he has faith in the industry and is interested in where it is going."

Mr. Bimel formerly manufactured automobile wheels at Portland, Ind. and sold out to the Motor Wheel Co. in 1930. Since that time he has been engaged in marketing automatic heating, refrigeration, and air conditioning in the Cincinnati area.

Doctors Told About Conditioner Advantages

SYRACUSE, N. Y.—Advantages of air-conditioned offices for doctors are presented in a new folder issued by Carrier.

Quotations from physicians are presented to show how room air conditioners have helped to avoid broken appointments, stop distracting noises, and keep both doctor and patients comfortable.

A diagram shows how the incoming and room air is cleaned, cooled, dehumidified and circulated to the "living zone," without waste cooling of the ceiling area.

Storage-Type Units Reduce Costs For A Meeting Hall

DETROIT—Storage type air conditioning was selected for use in the new \$1,000,000 Salvation Army building which was dedicated here early this month. Cooling for auditoriums, meeting rooms, church school rooms, and offices is handled by a 25-hp. Frigidaire compressor operating against a total load of 75 tons.

Because all of the load in the building seldom occurs at one time, the storage system was adapted as being the most favorable type from the standpoint of first cost and operating cost. Only reduction in over-all operating cost is in demand charges, as there is no "off peak" rate available for systems of this type in Detroit.

ICE ACCUMULATED

Refrigeration is "stored" by the accumulation of ice on coils in a large steel tank measuring approximately 16 x 8 x 9 feet. This tank, which is heavily insulated with sheet cork covered with cement plaster, contains 3/4-inch tubing on 3 1/2-inch centers. Coils are kept in alignment by a series of aluminum sheets, or fins, which are placed about 18 inches apart.

Because of the fact that ice forming on the coils when the compressor is running floats, no other support is necessary for the ice coils. Ice accumulates about 1 1/2 inches thick on the coils, and occupies 4 1/2 cubic feet of space per ton of stored refrigeration, based on I. M. E. rating. Eighty square feet of surface are necessary for the accumulation of 1 ton of ice.

CONTROL SIMPLE

Control of the compressor ice-tank hook-up is simple. A heavy float valve at the top of the tank shuts off the compressor when a predetermined water level is reached. As the ice forms in the tank the water level increases, and, when the ice melts, the water level naturally goes down, causing the compressor to cut in and continue to operate until the storage bank of ice is again accumulated.

Four American Blower centrifugal fans serve four zones in the system; auditorium, offices, small auditoriums and meeting rooms, and basement offices. Cold water is supplied to McQuay water coils connected with each fan by means of individual Deming centrifugal pumps.

Operation of the fans, pumps, and fresh air dampers is by means of a complete Powers Regulator compressed air control system, which operates from thermostats located in the building.

ANEMOSTATS USED

Air enters the large auditorium through three large "Anemostats" located in the ceiling of the room. Two are over the audience portion of the room, while a third diffuses air to the large stage and rostrum. Anemostats are also used in the small auditorium.

Air-conditioning equipment used in the building was installed by the R. L. Spitzley Co. of Detroit on specifications prepared by E. R. Gritschke, mechanical engineer of Chicago.

Air-conditioning storage data was worked out by Carl Boester of St. Louis, who specializes in this work for Marlo Coil Co., which supplied the refrigeration storage coils.

Storage systems of this type are applicable to many types of buildings and numerous kinds of business. Mr. Boester says. Restaurants having a high "peak" load at noon or in the evening, and neighborhood theaters which are open for only a few hours each day, were cited as logical applications.

Golden Voice

W. C. Sutherland, manager of the air-conditioning department of the Danforth Co., Pittsburgh, is better known as a radio broadcaster and sports announcer than as an air-conditioning man. And when that golden voice and smooth line is turned on an air-conditioning prospect, his associates say you can bet what will happen—another order signed.

"Using A-P Valves a Whole Year Without Any Replacements"



This is the kind of service efficiency that makes an installation profitable to you—and completely satisfactory to your customer. That's why Refrigeration Service Engineers swear by A-P Valves—call them great "Reputation-builders."

→ → →
A-P Model 210
Thermostatic
Expansion Valve

ESTABLISHED 1888 PHONES: PLAZA 3107-3168

J. P. PFEIFFER & SON

COMPLETE FOOD STORE EQUIPMENT
REFRIGERATORS FOR HOTELS, RESTAURANTS, INSTITUTIONS AND FLORISTS

200 NORTH PACA STREET - BALTIMORE, MD.

May 11, 1939

Automatic Products Company
2450 N. 32nd. Street
Milwaukee, Wis.

Gentlemen:

The enclosed photograph of Community Market, Annapolis, Md., is one of our recent installations using A/P Valves.

We would like, at this time, to express our appreciation for the wonderful service and operation we have had from your products.

It is noteworthy that in the past year that we have used A/P Valves we have not made any replacements.

Very truly yours,

J. P. PFEIFFER AND SON

JAP:8

Refrigeration Parts Jobbers,
Who Recognize Quality,
Stock Controls

AUTOMATIC PRODUCTS COMPANY
2450 NORTH THIRTY-SECOND STREET
MILWAUKEE WISCONSIN



DEPENDABLE

THE BYWORD FOR A-P VALVES

REA 'Tent Show' Will 'Ballyhoo' Appliances For Use on the Farm

(Concluded from Page 1, Column 1)

Huntington, Ind.; July 13, 14, Albion, Ind.; July 17-18, Attica, Ohio; July 20-21, Wellington, Ohio; July 24-25, Mt. Gilead, Ohio; July 27-28, Millersburg, Ohio.

July 31-Aug. 1, Lancaster, Ohio; Aug. 3-4, Bellefontaine, Ohio; Aug. 7-8, Greenville, Ohio; Aug. 10-11, Paulding, Ohio; Aug. 14-15, Richmond, Ind.; Aug. 17-18, Rushville, Ind.; Aug. 21-22, Franklin, Ind.; Aug. 24-25, Lebanon, Ind.; Aug. 28-29, Paxton, Ill.

Aug. 31-Sept. 1, Bloomington, Ill.; Sept. 4-5, Kansas, Ill.; Sept. 7-8, Shelbyville, Ill.; Sept. 11-12, Alsey, Ill.; Sept. 14-15, Petersburg, Ill.; Sept. 18-19, Golden, Ill.; Sept. 21-22, Macomb, Ill.

Penn Court Upholds G-E In Ovalle Case

HARRISBURG, Pa.—A Dauphin County Court verdict awarding General Electric Co., \$201,704.19 in a countersuit against N. K. Ovalle, former G-E distributor in Harrisburg, was upheld June 20 by the Pennsylvania Supreme Court.

Originally a jury had awarded Ovalle \$350,078.29 in a suit against General Electric for alleged losses resulting from its cancellation of a distributor's contract held by Ovalle. (AIR CONDITIONING & REFRIGERATION NEWS, Feb. 24, 1937.)

Judge William M. Hargest, however, set aside the jury verdict, and directed judgment against Ovalle in the amount of \$201,704.19, which G-E claimed as a loss resulting from dealings with Ovalle.

Douglas D. Storey of Harrisburg was attorney for Ovalle, who carried the appeal to the higher court. Attorneys for General Electric were the firm of Nauman, Smith & Hurlock.

Salesmen Cooperate In Furniture Store

KNOXVILLE, Tenn.—Furniture and appliance salesmen work hand in hand at Sterchi Brother's big store here. Appliance salesmen steering prospects to the furniture department receive a commission on sales, while the furniture salesmen collect for their appliance scout work.

If a furniture customer expresses her desire for an appliance, the salesman whisks her down to an appliance salesman. If the customer is sold an appliance, the appliance salesman splits a 10% commission with the furniture salesman, giving him 3% and retaining 7% for the closing of the deal.

A reciprocal agreement on furniture sales adds to the appliance department's income and the plan has started many new prospects to sales in both appliances and furniture.

Leonard May Shipments Show 25% Increase

DETROIT—Factory shipments of Leonard refrigerators in May were 125% of those in the same months of 1938, says Ray Legg, general sales manager. May was the fourth consecutive month in which the company's sales were ahead of corresponding months of a year ago.

Bert Clemens Manages Knoxville Dealership

KNOXVILLE, Tenn.—Bert Clemens, formerly connected with the wholesale department of the East Tennessee Electric Co., has assumed full charge of the company's retail store here. The full line of Kelvinator equipment is marketed.

Adds Room Cooler Line

BALTIMORE—Automatic Heating & Cooling Systems, Inc. has added room coolers to the line of General Electric air-conditioning equipment it distributes in this territory.

108 New Milwaukee Apartments To Have All-Electric Kitchens

MILWAUKEE—First apartment building in Milwaukee to be equipped throughout with complete electric kitchens is the \$350,000 Abbottsford project now under construction. When completed about Sept. 1, each of the 108 apartments in this nine-story building will be furnished with a new Frigidaire electric refrigerator and range, in addition to other kitchen equipment.

The building is of noiseproof and fireproof steel and concrete construction. Only wood used is in floors and moldings. Owner of the building is Herbert Wuesthoff.

May Washer Sales Up 25% Over 1938

CHICAGO—Washer and ironer shipments during May showed sizeable gains over the corresponding month of last year, figures reported to American Washer & Ironer Manufacturers' Association show. Washer shipments increased 25%, while ironers were up 26% from 1938 marks.

For the first five months of this year, washer sales were 32% higher than in the same period of last year. Here are comparative figures for May and the year's five months:

	1939	1938
Washers, May	105,266	84,016
Five Months	613,984	463,544
Ironers, May	8,433	6,675
Five Months	45,311	44,303

New York Distributors Contribute \$2.50 Per Unit Into Dividend Pool

NEW YORK CITY—Nine distributors cooperating in Consolidated Edison's "refrigerator round-up" last week made first payments of \$2.50 per unit into their dealers' dividend pools, leaving only one line—Philco—as a non-contributor to the campaign "kitty."

Philco's payment, however, was expected within the next few days, so eventually all lines cooperating in the drive will be represented in the dealers' pool.

The pool is made up of profits from wholesale sales made by the distributors, and is to be split up among cooperating dealers on a pro rata basis. Each distributor's pool is separate, and the funds are

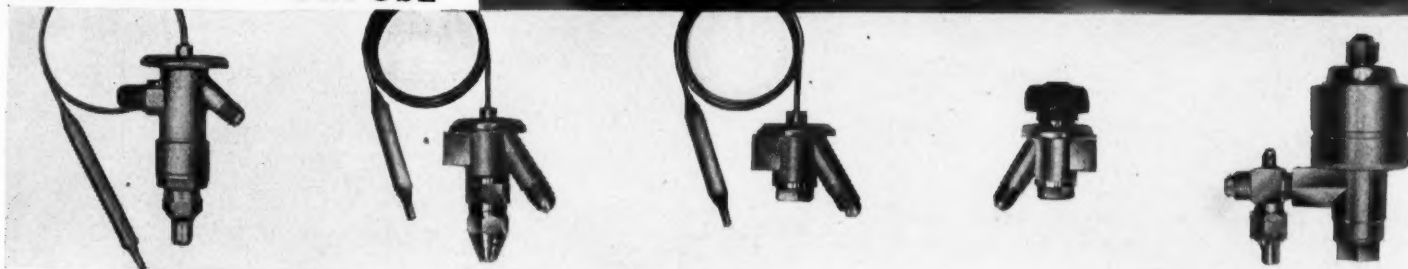
for division among his dealers only.

Nine lines involved in last week's \$2.50 partial payment were Frigidaire, General Electric, Kelvinator, Norge, Hotpoint, Leonard, Gibson, Spanton, and Westinghouse. Reason these companies had not made payments previously, it was understood, was to avoid, if possible, the embarrassment that might arise from some pools being considerably larger than others.

Time and method of this distribution had been left to the discretion of individual distributors from the start of the campaign. Four others, representing Stewart-Warner, Crosley, Universal, and Electrolux, already have made payments.

GOOD SOLID MERCHANDISE! THAT'S PEERLESS

VALVES FOR EVERY PURPOSE



MODEL "V" THERMAL EXPANSION VALVE . . . 1500 to 60,000 B.T.U.'s per hour. "VELVET ACTION"—Removable ORIFICE CARTRIDGE makes each valve the RIGHT SIZE for each job.

THE MODEL "VS" THERMAL EXPANSION VALVE . . . Capacities 1500 to 6,000 B.T.U.'s per hour—Velvet Action and Removable ORIFICE CARTRIDGE.

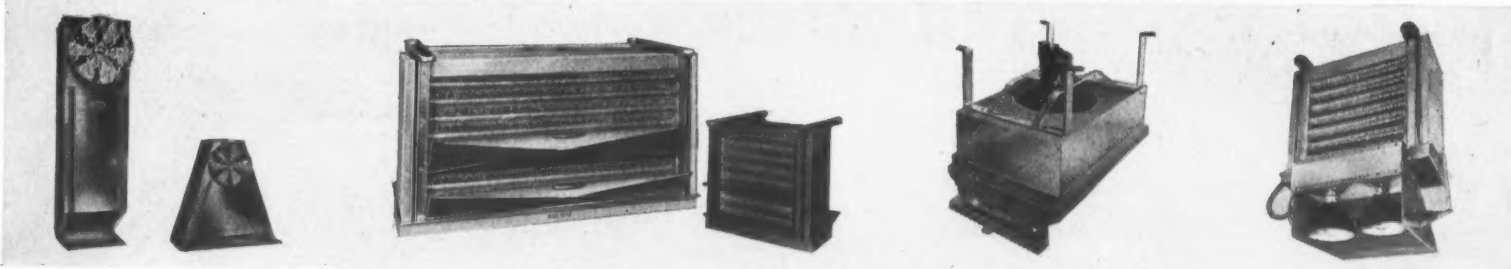
MODEL "VN" THERMAL EXPANSION VALVE . . . Thermostatic valve for integral unit use . . . Up to 3,000 B.T.U.'s per hour . . . Non-Adjustable.

MODEL "VA" AUTOMATIC EXPANSION VALVE . . . Up to 6,000 B.T.U.'s per hour . . . Velvet Action.

MODEL "VT" CONSTANT PRESSURE VALVE . . . MAINTAINS desired CONSTANT EVAPORATOR PRESSURE regardless of load variations . . . provides DEPENDABLE COIL PROTECTION on water or beverage coolers.

EACH PEERLESS VALVE COMES TO YOU FACTORY NEW IN SAFETY SEALED TAMPER PROOF METAL CONTAINERS

UNIT COOLERS FOR ALL COMMERCIAL REFRIGERATION APPLICATIONS



GUN COOLER—"Upside Down" Cooling—the sensation of the 1939 Commercial Refrigeration Season—"UNIVERSAL REFRIGERATION".

PEERLESS UNIT COOLER—THE "STANDARD OF THE INDUSTRY" . . . made for small or large refrigerators.

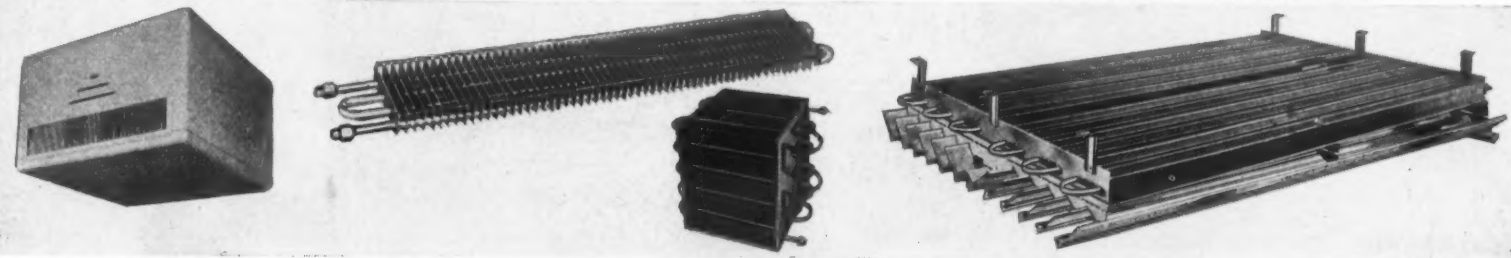
PEERLESS POWERED FLASH COOLER . . . The famous Flash Cooler with fan and motor . . . used where space is limited.

LOW TEMPERATURE UNIT COOLERS—Temperatures down to -40° F. . . With Radiant Heat Defroster.

COMFORT CONDITIONERS

FIN COILS

FLASH COOLERS



COMFORT CONDITIONER . . . For All Air Conditioning Applications . . . Capacities, one to six tons water or refrigerant.

PEERLESS FIN COILS—"Wedge locked—Edge locked and Riffled" . . . More PEERLESS Coils in use today than any other type of fin coils in the Refrigeration Industry.

PEERLESS FLASH COOLER—The "DeLUXE" COOLER that gives "DeLUXE RESULTS".

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LONG ISLAND CITY

PACIFIC COAST FACTORY
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Profitable Sales Ideas

Sales 'Class System' Solves Problems Of Furniture-Appliance Dealership

HARTFORD, Conn. — A "two-class" plan on both products and commissions is helping Flint-Bruce Co. solve the appliance-selling problems of the two types of salesmen who man its electrical appliance and furniture departments.

Under a plan devised by appliance manager E. D. Emigh, appliances handled by the store have been divided into two classes. In the first class are specialty appliances—electric refrigerators, electric and gas ranges, and laundry equipment. In the second group are the "stove men's" products: gas and coal stoves, coal and wood combinations, coal and oil heaters.

TWO KINDS OF SALESMEN

Selling these appliances are two distinct classes of salesmen—the regular specialty-type men and the furniture men. These latter men work principally through "walk-ins" or their regular customers, and many of their sales come through the store's advertising. The specialty men, on the other hand, beat the bushes for business.

Steering a smooth path through the conflicting claims of two entirely different classes of salesmen is no easy task, but Mr. Emigh has worked out a plan which has eliminated most of the inter-staff bickering over who sells what to whom and how much he gets for it.

Specialty men get their regular commission on specialty appliances, but are paid on a lower rate for sales of "stove" equipment. Most such sales are made inside the store, and company figures its "stove"

advertisements bring these customers in without effort on the salesman's part.

Specialty appliance "walk-ins" belong to the specialty salesmen. Furniture department salesmen can sell refrigerators, ranges, and laundry equipment only to their own established customers, drawing the same rate of commission paid them on furniture sales. Or, if he prefers, the furniture salesman can turn his customer over to an appliance department man, and claim his share of the higher commission if a sale is made.

On all "stove" sales, the furniture salesmen draw the same commission they do on regular sales in their department. "Walk-ins" on this type of equipment belong to the first salesman who makes the contact.

RECORDS SHOW WHO'S WHO

Past furniture sales records are used to check whether or not the appliance prospect is a furniture salesman's customer, and the prospect file kept by the appliance department protects furniture men on any prospects they dig up for themselves.

Five salesmen work in the store's appliance department, rotating the floor-sales turn daily, and making outside calls the other days of the week, follow-ups on leads or contacts made inside the store.

For the first three months of this year the company's refrigeration sales were double those for both 1938 and 1937. One reason for this, Mr. Emigh says, is that this year the company switched to a "one-line"

operation, and all its salesmen know the product from A to Z.

Another spur to sales has been the setting of higher sales quotas, and the awarding of cash and merchandise prizes to quota-busters. Quotas were set plenty high, says Mr. Emigh—high enough to pull all the men up over past performances, but still low enough so that the top third of the force could make the "quota-buster" ranks.

Sales force also was lopped off its deadwood at the start of the year, leaving more sales—and better incomes—for those who stuck. Average commission of Flint-Bruce men was \$135 for February. "That's one way of keeping them happy," in Mr. Emigh's opinion.

A PUSH FROM THE STORE

Also serving as an incentive to sales this year has been a changed attitude toward appliances on the part of the store. Instead of letting appliances ride along with other products, as in the past, the store this year has recognized this department as a potential profit item, and has started advertising and pushing for sales, capitalizing on its reputation as a furniture house.

Appliance department now has a regular budget on newspaper and direct-mail advertising, and some radio advertising has been done as well. Personal letters from salesmen to prospects and owners have been encouraged, each salesman writing about 25 such letters a week.

Prospect lists are kept fresh by limiting each salesman to 200 names, and making a thorough check of each list every 60 days. Names not contacted within that period go on the "open" list, where they are anybody's meat.

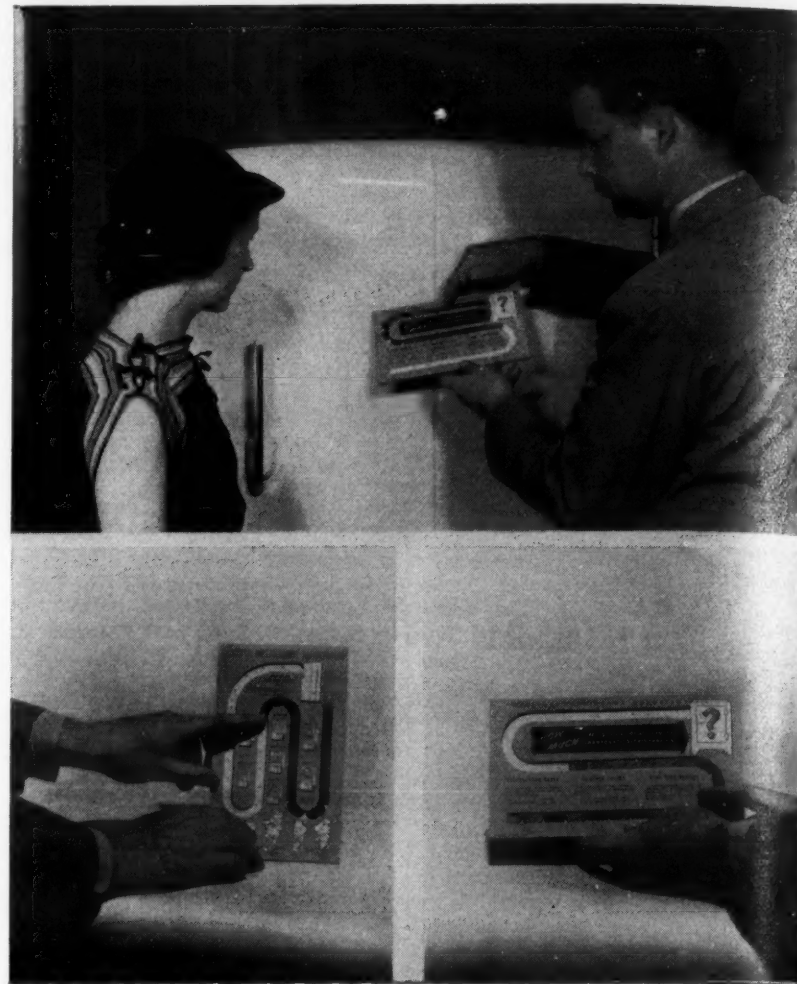
Colorful Table Radio 'Spot' Displays Aid Appliance Sales

FORT WORTH, Tex. — Traffic-stopping displays of bright-colored table radios have helped solve the problem of having hurrying shoppers linger at the appliance department of Stripling's big department store here, a Frigidaire dealer.

The flashy table sets are so arranged as to draw shoppers into the department's main appliance display, where the salesman can lead the discussion into major appliance channels.

Many of these "stop-'em-first-sell-'em-later" sales were made last year, when a total of 650 refrigerators were reported sold. They hope to beat that record this year.

Savings Story in Graphic Form



Westinghouse salesman can sing a song of savings to the prospect with the new "Penny Budgeter" sales-closing tool. In use (above), the Budgeter takes the prospect's own estimate of how much a new refrigerator would save for her, and (lower left) shows her the model these savings will buy.

Says Canvassing Is 'Bad' For Small-Town Stores

IOWA CITY, Iowa — Knocking on prospects' doors in a cold canvass is bad sales business in smaller towns, because it annoys potential buyers and keeps them out of your store where real selling should be done, thinks L. R. Spencer, owner of Spencer's Harmony Hall, music store dealing in Leonard and Philco refrigerators.

No refrigerator salesmen are employed at the store, Mr. Spencer being a "one-man gang," handling all the sales work himself. "Most of the people ask to see me anyway," he explained, "so I decided that I might as well see them all in the first place." The store does a big business in pianos, radios, and victrola records, and the refrigerator prospects come from these customers.

When Mr. Spencer sells a refrigerator he makes a call on the customer—a friendly call—and here he gets additional prospects. He then makes a store appointment with the prospect for the demonstration. He has found this method successful, especially among the higher-income classes, who seem to have a special hate for "home salesmen."

All financing of the refrigerators is handled by the store, making another link in the more personal contact that Mr. Spencer advocates.

'Budgeter' Shows Pennies Refrigerator Can Save

MANSFIELD, Ohio — If money talks, even in small amounts, salesmen will be able to sing a regular "penny serenade" to their prospects with the aid of the "Penny Budgeter," newest sales-closing help made available by Westinghouse's refrigeration department.

Although designed as a "closer," the "Penny Budgeter" also can be used effectively in any part of the sales presentation, as it offers a dramatic demonstration of the economy of electric refrigeration.

The salesman inserts pennies in a slot to illustrate the savings per day that can be effected with a new electric refrigerator. These savings, represented by the pennies, are computed from (1) lower cost of operation of a new refrigerator, (2) reductions in food spoilage losses, and (3) quantity buying made possible by additional storage facilities.

As the salesman places the pennies in the Budgeter, he manipulates them so they are passed through a slot to the other side of the card. When he reverses the card, the savings, or pennies, indicate just what model refrigerator the customer should have.

It has been found that the average housewife will agree that from 15 to 20 cents per day can be saved by the use of a new refrigerator.

Sell Something Easy to SELL!

The New H. & H.

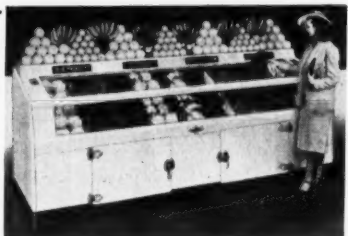
PRO-DU-SELLER

Double Duty Vegetable Case

Designed by a Master Merchant FOR MERCHANTS. Height 52 in. New hydrator refrigeration principle. Equipped with exclusive H. & H. illuminated "Sales Increaser" Panels. The fastest selling, biggest money making case on the market. Get this case in your line NOW.

Write for information regarding franchise for H. & H. Refrigerator Products in Your Territory

HOLCOMB & HOKE MFG. CO., Indianapolis, Indiana



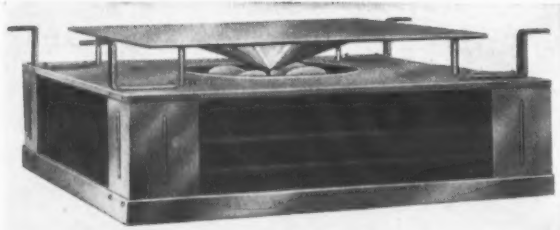
When YOU are asked to "pull a rabbit out of your hat"... REMEMBER



Bush Coils mean NO CHECKING . . . and always MAXIMUM surface in MINIMUM space

Bush Coils mean NO REFIGURING . . . charts always show ACTUAL exposed surface

Bush Coils mean NO WORRYING . . . orders always shipped the same day received



See the BUSH-RECORD UNITS in the New BUSH CATALOG. Every refrigeration engineer will want a copy. Write for yours TODAY.

SINCE 1907



Finned Tube Products

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610 N. OAKLEY BLVD. - CHICAGO - ILL.

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"ANSUL NEWS NOTES"

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Gentlemen:
Please add me to the ANSUL NEWS NOTES free mailing list, and send at once a copy of the June issue.

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There is an ANSUL JOBBER Near You

Distributive Policies Blamed For Profitless Refrigerator Business In Cincinnati

Complaint Made of 'Too Many Dealers' & That Distributors 'Hog' All Service

By Phil B. Redeker and Robert M. Price

Cincinnati

Electrical appliance sales will submerge some 15% this year under 1938 figures, it was estimated by utility officials here. First quarter volume was lagging 10% behind last year's totals, and last year there was a drop of 36% from the \$13,116,155 sales made in Greater Cincinnati in 1937.

Last year 15,557 refrigerators were sold by dealers, as compared to 28,823 in 1937. Ranges, however, are making slow gains, showing an increase of 4.5% last year. Small appliances are expected to increase, such items as glass coffee makers and clocks leading the list.

Steady losses in electrical appliance volume were attributed to many factors. F. S. Dewey, sales manager of Cincinnati Gas & Electric Co., said that the decrease in refrigerator sales was in part due to market saturation (estimated as above 70%), but laid the spring sales lag to uncertain conditions in the entire business world and the repeated threats of turmoil in Europe.

CONSERVATIVE BUYERS

Mr. Dewey said he believed that the character of Cincinnati people was such that buying would be ultra-conservative in the face of conditions as they exist today. The business graph has not dipped and climbed here to the degree that it has in many sections of the country, he pointed out, local industries being stable and diversified enough to steady the curve.

Mr. Dewey's prediction is that replacement business this year will amount to between 15 and 25% of the total volume.

The utility is still very much in the merchandising field, but it was claimed that local dealers did not raise much objection to the continuance of this policy. Mr. Dewey said that it was the policy of his company to meet all dealer objections as they arose, to settle them in a manner that was agreeable to both parties. As one evidence of the success of this plan, he cited the outstanding success of the utility's "Cincinnati Plan." This is a co-operative agreement between the utility, wholesalers, and plumbing and heating contractor-dealers, which in three years resulted in the sale of 7,728 water heaters.

TRADE-IN 'AGREEMENT'

The company agrees to cooperate in a like manner with all appliance dealers, although it refuses to enter any agreements on trade-ins or prices. The company does keep within the agreement set by the dealers, but is of the opinion that no formal agreement will hold up long, as a few dealers will always run out on the rates set.

Mr. Dewey freely admitted that his company does not promote electric ranges in the territories where gas lines are available. Earnings of utilities are not figured on the joint investment in gas and electricity, but as separate items. If more earnings came from electric lines, electric rates would have to be lowered, even though there was a loss on the gas properties.

Tests made by the company, he said, have proved that gas ranges are more economical—and just as efficient—in this region, even though electric rates are comparatively low. He indicated that, on its findings, the company refused to sell or promote electric cooking over gas on the claim of "better value." Dealers report that this attitude makes selling electric cooking very difficult.

Zachman Advocates

'Fewer, Better Dealers'

"There is no solution to the ills of the appliance business—or any business—except good times," stated E. P. Zachman, secretary of Cincinnati Electrical Association. "In the last six years, over 115,000 refrigerators have been sold in the Cincinnati area, yet very few distributors or dealers made real money on the exchange."

"Profits were cut because this six-year selling period fell in the middle of the depression. Now a great fear has settled over most of the buying public—fear of their jobs, fear of what is to happen economically and politically. Until that fear has been removed, the depression of buying power—and of profits—will continue."

SEES BIG REPLACEMENT

Should a return of business and buying confidence put new life into trade, Mr. Zachman expressed no fear for the future of the appliance business; that is, for a steady volume. He believes that in normal times—despite rising saturation—there will be a replacement business in Cincinnati of from 20,000 to 25,000 units a year in refrigerators alone. Only about 15% of the population is unable to purchase electric re-

frigerators, he said, and new homes being erected, new styles and new features on late models should keep the demand for new and replacement units steady.

The cycle of the appliance business was said to be generally the same as that in the radio business. In the early days a man just "hung up a shingle" and went in business. The result has been an overcrowded dealer field, with a continual changing of dealers, and profits being sacrificed to the maintenance of volume. The solution to the profitable operation of a dealership in radio or refrigeration is fewer and better dealers, thinks Mr. Zachman.

NO SERVICING

One of the biggest problems in Cincinnati is service, according to this analysis, because "any little alley dealer can offer the same service as the reputable dealer." This is possible because all of the service is handled by the distributor.

Larger dealers feel that if they could maintain their own service departments, a valuable selling point would be gained. As it is, the small here-today-gone-tomorrow dealer pulls business because a buyer is assured of cut prices and high trades—and knows that no service problem will be presented if the dealer does fold up.

The increased replacement busi-

ness will add to this problem, it is felt, because these small dealers will have an added weapon in boosted trade-ins.

Service Setup Said To Help 'Fly-By-Nights'

Feeling the effect of the distributor service arrangement is H. & S. Pogue Co., a department store dealership that has been in business many years. Mr. Martin, manager of the appliance department, said, "The good dealer has no advantage over the poorest of dealers. Price seems to be the only factor on which people are buying refrigerators. The reputation of a store for fair dealing can be and is discounted by these buyers."

He brought out that the small dealers believe that they can offer a lower price, give better deals, because of their size, and so pull the business away on these lures. The move for control, for allowing dealers to offer their own service, should come from the manufacturer, Mr. Martin believes.

Despite these troubles, a gain of 25% over last year was recorded in Pogue's appliance department up to May. Consistent advertising and large floor traffic had pulled up the business.

Commenting on the increasing de-

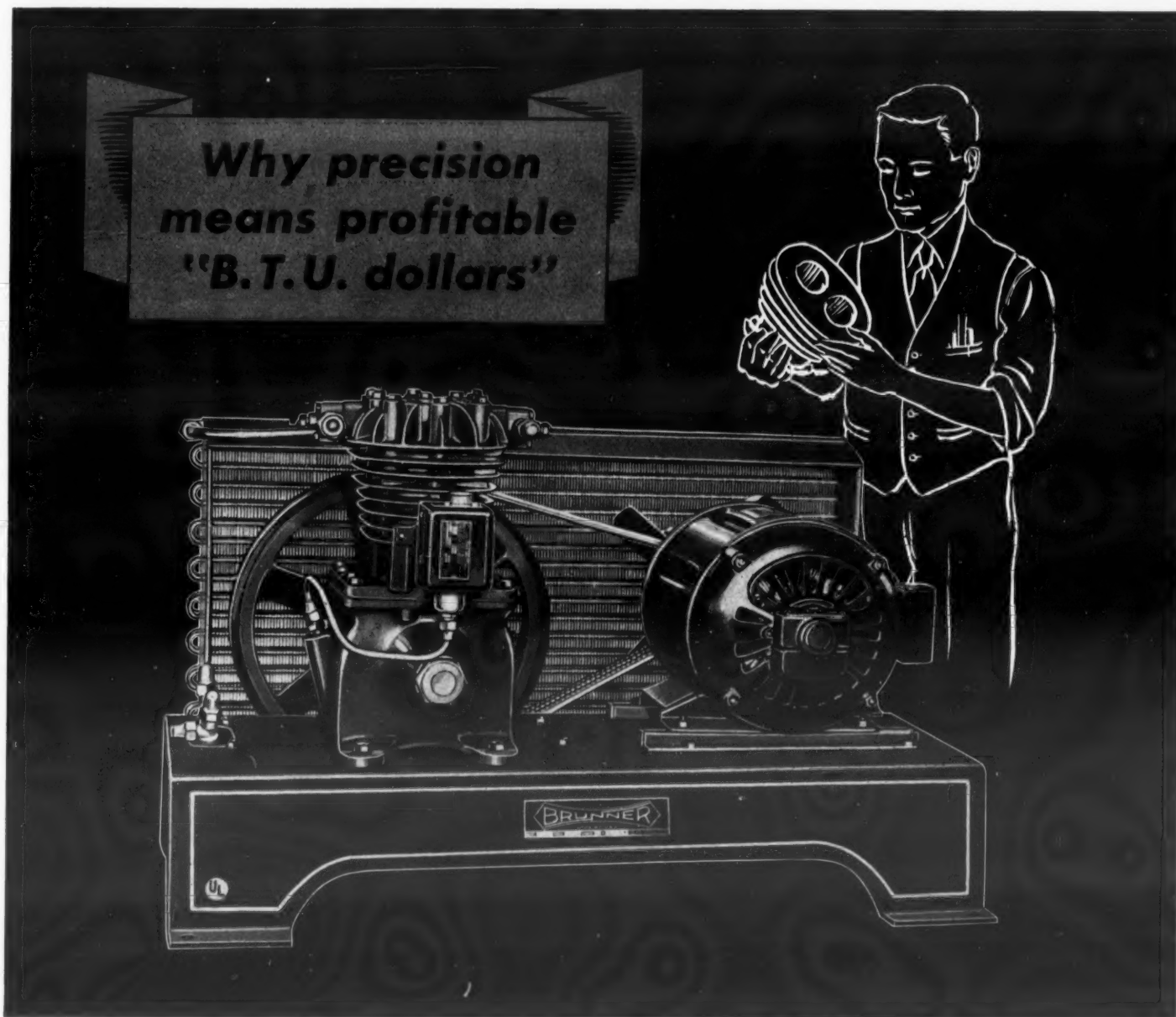
mand for lower refrigerator prices, Mr. Martin said that the "price leader" offered by major manufacturers was no answer. "No manufacturer should expect a dealer or a salesman to sell any item without a chance for profit," he continued. "Any lowering of price should be accompanied by a rise in discount, not a reduction."

McAlpin Finds Sales Come In 'Flurries'

At the McAlpin Co., department store Frigidaire dealer, the appliance manager was new this season, and had been out of appliance selling for some years. Current problems, he said, were all new to him. Particularly, he has noticed slight buying flurries, followed by dull periods. He was at a loss to account for this uneven sales trend, except to suspect that large volume buying was being done this year in low-price models, a class of merchandise which is not carried by the McAlpin department store.

Frigidaire To Bourell's

OLNEY, Ill. — Bourell's Music Store, Kelvinator dealer, has added the Frigidaire line of refrigerators and other household appliances.



Every Brunner Unit is tested for Underwriters' Laboratories Approval and Carries the U. L. Seal

● BRUNNER precision plays a dual role in reducing the cost of commercial refrigeration... First, there's the contribution of precision to performance. All vital parts throughout the Brunner construction are machined to exact fit—cylinders, pistons, bearings, valves. The practical results are markedly reduced friction and wear, minimum losses due to leakage, and greater all-round operating efficiency. And as an added economy, Brunner precision means perfect interchangeability of parts and thus reduced maintenance expense should re-

placements ever be needed... In the manufacturing process, too, Brunner precision promotes economy—the economy of lower first cost. For precision requires simplification and compactness of design, and this demands more efficient manufacture. A more favorable selling price is the natural result... So whatever your refrigerating or air conditioning problem, save "B. T. U. dollars" through Brunner precision. Air and water cooled units from 1/4 H. P. to 15 H. P. Catalog on request. Brunner Manufacturing Company, Utica, N. Y., U. S. A.

The Symbol of **BRUNNER** Dependability

Major Appliances

Troubles of Launching New Product Related Frankly By 'Jud' Sayre

NEW YORK CITY—Trials and tribulations of a manufacturing-merchandising organization in giving birth to a new product, in ironing out the almost inevitable mechanical "bugs" and sales problems, and in nursing the new brain child along until it's strong enough and steady enough to stand on its own feet were graphically described by Judson S. Sayre, vice president in charge of sales of Bendix Home Appliances, Inc., when he spoke recently before the Sales Executives Club of New York.

The Bendix organization was the one of which Mr. Sayre spoke; the Bendix home laundry was the product whose development he described.

GROUNDWORK

"Groundwork for the product was laid in the summer of 1937," Mr. Sayre explained, "when three men signed up 72 distributors and took sight-draft orders for 32,000 units, with deliveries to start Oct. 1.

"Everything had been carefully planned, from the setting up of territories to the completion of arrangements for the first distributor meeting. But by the time the campaign was to open, general business had taken a nosedive and the whole country had been plunged into the throes of what soon became known as 'recession.'

"Bendix distributors found themselves loaded to the gunwales with other appliances before they could even get a start on the laundry unit. So to keep laundry outlets from freezing up completely, pressure was put on the group demonstration plan.

"These demonstrations were intended to draw groups of women into the salesroom, where they could actually see the laundry unit at work. "This plan, with its attendant

advertising, publicity, and other promotional activity, resulted in numerous sales and gave dealers a bank of thousands of prospects upon which to concentrate their sales efforts.

"But this response proved too much for both distributors and dealers. Most of them got the idea that

Grief galore besets even a well established manufacturing organization when it attempts to introduce and merchandise a product that is not only new but also different—especially when the product debut is further complicated by the ravages of a severe business "recession."

Unable to beat such a combination of circumstances, some products sink from sight, never to be heard from again. Others weather the storm, and rise through adversity to become established market commodities.

In this article, "Jud" Sayre, vice president in charge of sales for Bendix Home Appliances, Inc., tells of the ebb as well as the flow of the Bendix Home Laundry's tide of fortune, and gives the "lowdown" on how this product reached its present position.

the Bendix unit would sell itself, despite repeated factory warnings that the machine would have to be thoroughly sold, carefully installed.

"Worse than that, some distributors hungry for immediate income were careless in their selection of dealers. In turn, many dealers needing quick cash sold machines before they had men trained to make proper installations.

"By Jan. 1, 1938, distributors and dealers were still loaded with other merchandise, general business was

getting worse, and sales of the laundry unit were beginning to bottleneck at the dealer. As there was only one model, it was difficult to get distributors to carry much stock.

"So we took a good look at the general business situation and gambled on an upturn about March 1. (We were wrong.)

"We called a council of war composed of sales executives, district managers, and representatives of the advertising department and our advertising agency. At this meeting we worked out an intensive sales drive based on the premise that if we could force the distributor to increase his inventory he would put more time, money, and effort into selling dealers and in teaching dealers how to sell.

BREATHING SPELL

"Distributors agreed to take machines on at fixed schedules, and the factory agreed to run a certain amount of advertising in magazines and newspapers. When the national advertising broke, sales hit a new high. The first four month's quota was sold in three weeks, despite the fact that the general business curve continued to go down.

"It looked as if we had a depression-proof product—then, suddenly, an epidemic of product trouble broke loose! Dealers' sins in the form of sloppy installations started to come home to roost. Minor 'bugs' were exaggerated by competitors. What had been a murmur of skepticism swelled into a deafening chorus of 'I told you so's.'

"By the end of March, our sales curve was crowding general business for first place in the gutter.

COUNTER ATTACK

"In an effort to counteract this downward trend, we launched a 13-point program providing for shipments of units to only those distributors and dealers who had product trouble under control, cancellation of national and limitation of local advertising, correction of mechanical defects, installation and service instruction for retailers and wholesalers alike, a testimonial contest, intensified sales training, organization of a retail salesmen's club, and another general council to plan a new drive for fall.

"Despite these precautions, the sales curve of the Bendix laundry

Progenitor and Progeny



Miss Helen Bertine stands by the "Leonard Cleanable" icebox purchased by her grandmother in 1891 as Wright Drew, Miss Bertine's nephew and a Leonard salesman, points out some of the features of the 1939 Leonard electric refrigerators. Miss Bertine traded the old icebox in on one of the new models.

unit hit bottom on July 7. But by July 22 it was up 75% from this low point, and sales then leveled off and held fairly even until the field meetings of the fall program started in September.

"These fall meetings fell into the orthodox pattern, with 'inspirational' talks by factory men and agency representatives, a motion picture of the new factory and of production processes, and a slide film from the sales training course.

SALES BOOM

"Apparently the sales meetings, or at least something, had some effect, for during the week of Sept. 23 sales hit a new high, almost 300% above the nadir in July. During the entire year of 1938, Bendix sold 47.2% of all washers retailing at more than \$100, the public paying approximately 8½ million dollars for these units. And what's most important, the company finished its first year in the black!

"Backbone of the company's campaign for the spring of 1939 was a series of meetings held with distributors in groups of four at the factory in South Bend, Ind.

"At these meetings, regional and district managers explained the entire program to distributors, and distributors were asked to set definite dates for dealer meetings, so that they in turn might explain the program to the dealers.

"Starting off with a drive to get dealers and salesmen to 'use the users' in building up large prospect lists, the spring campaign featured a comparison contest for consumers and a cruise to Havana for leading distributors, dealers, and salesmen.

WEAK SPOTS BOLSTERED

"To bolster weak spots in the campaign, distributors who were not faring so well were drilled on the methods being used by the New York, Newark, and Philadelphia distributors in the conduct of their successful drives.

"At the present time a meeting of regional and district managers is being held every 30 days at South Bend to review progress and to compare methods and procedures that are securing results," Mr. Sayre reported. "This interchange of experience," he declared, "enables the sales department to keep in close touch with every phase of the sales situation, and helps to establish and maintain the close sales control which is largely responsible for whatever progress has been made.

"And as an indication of the advance we have made," he concluded, "sales for the first quarter of 1939 averaged 35% more than for the corresponding period of 1938."

Antique Icebox Traded In on Newest Electric Unit of Same Make

MIDDLETOWN, N. Y.—Ghosts of the "Gay Nineties" must have gazed in wonder recently as a familiar kitchen companion of their day—a "Leonard Cleanable" ice refrigerator, vintage of 1891—was traded in on a shiny new Leonard electric refrigerator at Levin Furniture Co. here.

For it was on this very same site, in the store of George A. Swalm ("wholesale and retail dealer in hardware, cutlery, stoves, agricultural implements, etc.") that the old icebox was first sold, on June 2, 1891 to a Mrs. Wright of Middletown. Since that time, the old Leonard—wooden cabinet, hand-carved door panels, and all—has been used by four generations of the same family in its 48 years of service.

In fact it was Wright Drew, great-grandson of Mrs. Wright (original purchaser of the aged icebox), who sold the new Leonard to Miss Helen Bertine, his aunt and Mrs. Wright's grand-daughter, who had inherited the Leonard Cleanable.

Mr. Drew does sales and advertising work for Levin Furniture Co., present Leonard dealer here. Manager of the Levin store is W. F. Taylor.

Home Refrigeration Moves

CHARLESTOWN, W. Va.—Home Refrigeration Co., Kelvinator dealer, has moved to a new location at 709 Virginia St., E. In addition to appliances, the company also handles commercial refrigeration.

SERVEL Silver Fleet COMMERCIAL REFRIGERATING MACHINES

"Beauty is only skin deep" . . . but under the lustrous silver surface of these sensational new Servel units, you'll find a degree of performance, economy and noise-



lessness never before available in low-pressure refrigeration. Write today for details. Servel, Inc., Electric Refrigeration and Air Conditioning Div., Evansville, Ind.

Century's Motor Specialization + Correctly Engineered Application = Satisfaction and Economy

Century RS Motors are built in sizes from 1/8 to 40 hp.

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Your Convenience

Century Motor Specialists are located in these key centers:

Atlanta • Baltimore • Boston
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Detroit • Houston • Indianapolis
Los Angeles • Milwaukee
Minneapolis • New Orleans
New York • Omaha
Philadelphia • Pittsburgh
Rochester • Salt Lake City
San Francisco • Spokane
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FOR continuous satisfaction on refrigerating machines, house pumps, compressors, blowers and fans, stokers and oil burners, Century RS motors have never been surpassed.

No other type of single phase motor manufactured can compare with the high starting efficiency of the Repulsion Start Induction Single Phase Motor.

By starting efficiency we mean starting torque per ampere of starting current necessary to give 400 per cent of full load torque, or more.

With this type of single phase motor, there is the least voltage drop at starting on long or heavily loaded lines, hence better voltage at the motor terminals and the least light flicker.

Century has been building RS motors since 1903—and 36 years of specialized experience has kept Century RS motors in a position of leadership throughout the world.

The Century Repulsion Start Induction Brush Lifting Motor played an important

part in the early history and public acceptance of motor powered devices.

You can have complete confidence in any air conditioning or heating unit powered by a Century Type RS motor for you know that the application has been properly engineered. Century prefers losing a sale to selling motors for a known improper or uneconomical motor application.

The Century Motor Specialist is your consulting engineer. His years of specialized experience in proper motor application are at your disposal. Call him.

Manufacturers—As a manufacturer your dealers will have confidence in the engineering and performance of your product if it is Century equipped.

Dealers—In selecting the line you sell it is to your own best interests to specify Century motors for they protect you and your profits by assuring long, trouble-free life, together with dependable and economical operation of the entire unit.

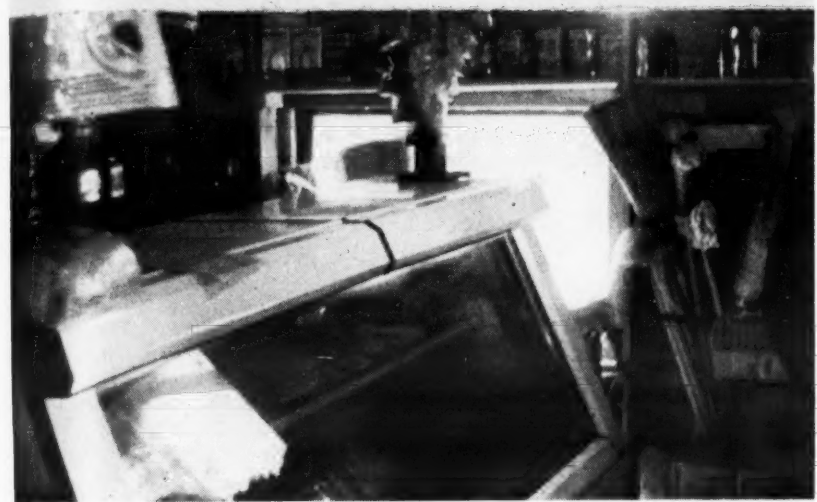
CENTURY ELECTRIC COMPANY
1806 Pine Street St. Louis, Mo.



One of the Largest Exclusive Motor Manufacturers in the World

Commercial Refrigeration

Prospects Are Everywhere



Salesmen Prove It Can Be Done By Walking In—Not By—a Store

ST. PAUL—A live sales organization is one that never misses a bet, no matter how remote the possibilities may seem, and the Cox & Blackburn Co., Seeger commercial refrigerator distributor in Houston, Tex., deserves to get its name listed among the "live" outfits through some of the sales it has made recently, declares J. J. Leonard, Seeger's sales manager.

In proof of which Mr. Leonard has submitted some pictures (one of which is reproduced above) showing the exterior and interiors of some of the places in which Cox & Blackburn has recently made sales. Nine salesmen out of 10 would have probably passed by such places (basing their judgment on the exterior appearance) without ever suspecting that the place might be a prospect for some of their equipment. But the Cox & Blackburn salesmen didn't pass by—and they made a sale. Comments Mr. Leonard:

"I think that it is a very positive suggestion as to what can be done by some live sales organizations such as the Cox & Blackburn Co."

MASTERCRAFT

ADJUSTABLE PAD AND CARRYING HARNESS
The most efficient and economical equipment made for handling refrigerators safely and without scratching or marring. Pad is separate from harness and both adjustable to all styles and sizes of cabinets.

Efficient, sturdy, easily and quickly applied.
Adjustable Pad, \$8.30 each
Adjustable Harness, \$6.00 each

Name of refrigerator attractively lettered on pad at 50¢ extra.
f.o.b. Chicago.
Write for folder and prices on pads for refrigerators, washers, ironers, ranges, radios, etc.

Pat. Appl'd for
BEARSE MANUFACTURING CO.
3215-3225 Cortland Street, Chicago, Illinois
Incorporated 1921

Several Distributors Added By Lipman

BELOIT, Wis.—Nine more distributors have been appointed for General Refrigeration Corp. equipment, bringing the total to 14 in a four-week period. New distributors include the following:

Lincoln Supply Co., Danville, Ill.; Arthur A. Bauer, Toledo; M. B. Rogers, Fort Worth, Tex.; Wayne Spinks Co., Memphis, Tenn.; J. D. Vandergriff, Amarillo, Tex.; Smith Elevator & Mfg. Co., Inc., Chattanooga, Tenn.; Alford's Butcher Supplies, Albuquerque, N. M.; Franz Co., Inc., Springfield, Ill.; and Harold J. Young, Muskegon, Mich.

New Seeger Reach-In Models Have Blower

ST. PAUL—Three new commercial refrigerators, with storage capacities of 20, 30, and 50 cu. ft., have been added to Seeger Refrigerator Co.'s line of reach-in equipment.

Equipped with blower coil and fan assemblies to provide positive circulation of air throughout the cabinets, the units are claimed to reduce shrinkage 50% or more, and to provide humidity of 90% for stored foods, regardless of room temperature.

Largest model, D-50, is a three-door unit, while the other two (D-20 and D-30) are two-door models. All have interiors of porcelain enamel, and exteriors of white Dulux. Automatic light switch is on all doors in all models, and shelves are of wire bar type, tinned. Shelves are adjustable.

Cabinets are regularly equipped with shelves in all compartments, but provision for insertion of ice-maker coils is made in one of the compartments, if desired. Heavy brass chrome finish hardware is used, and is equipped for padlocking.

All models are of the self-contained type, with the compressor compartment located beneath the food storage space. Panel of this compartment is removable for easy inspection of equipment. Legs are 6½ inches high, to permit cleaning underneath the cabinet. Three inches of insulation is used in all models.

St. Louis Refrigeration & Air Cooling Dealer Builds 'Sales Story' Around a Service Policy

ST. LOUIS—Don't stop with the installation, but sell service along with the product! This bit of sales advice, which might well apply to a good many branches of refrigeration and air-conditioning merchandising, is a major plank in the sales platform of Sears & Piou Co., distributor in this territory for Carrier air-conditioning equipment.

Installation should not write "finis" to the sale of any air-conditioning unit, large or small, this company believes, and it backs up its belief with an "emergency service" organization consisting of six repair and maintenance trucks and a staff of six air-conditioning service experts.

Size of the service force varies with the season, but is always carefully matched with the "demand," or percentage of total number of units in use which may possibly require service.

All service trucks are panel delivery models and are completely fitted with tools and replacement parts. The trucks are also employed as an effective advertising medium, with the legend "Carrier Air-Conditioning Emergency Service" printed on the sides of each unit, and also on the top for the benefit of office workers above the street level.

Each truck operates in a prescribed area, so it is possible to assure customers that minor repairs will be effected within a half hour from the time the call is received,

while more serious difficulties will be remedied within a few hours, at most. Average repair call, the company's records show, is occasioned by jammed valve, an electrical short, faulty water connections, or some similar minor trouble.

"Sears & Piou services only its own installations (the company has placed some 600 jobs in St. Louis and suburbs during the past six years)," explains Service Manager C. E. Darnton, "so is not actively engaged in the service business on a competitive basis.

"The firm began to realize the value of adequate service when it first started to handle air conditioning, because it found that the average buyer felt more assured of the value of his purchase if the firm from which he bought it actually made itself responsible for the operation of the equipment after it had been installed.

"It's much like the case of the used car buyer," he points out. "If a man buys a car from some irresponsible 'corner lot' he isn't given any service guarantee whatsoever, whereas if he buys a used car from an established new-car dealer he usually has the reputation and service facilities of that firm behind his purchase."

Sears & Piou salesmen make extensive and effective use of the firm's service policy as a selling tool, playing up the continued satisfaction which this policy assures. When a

sale is closed, the company offers the customer his choice of two service-payment plans—the standard hourly charge, or a monthly contract. As the monthly arrangement allows for a considerably wider profit margin, it naturally is the plan recommended in every case. The majority of Carrier installations in St. Louis, the company reports, already are being serviced on this monthly charge basis.

A service system as complete as that maintained by Sears & Piou naturally places an additional burden upon a merchandising organization, but this company reports that it has found such a policy well worth while by reason of the increased sales which it has encouraged, the prestige which it has added to the firm name, the backlog of customer goodwill which it has built up, and—far from least—the fact that a goodly profit is made on every service call.

Control Replacements Introduced By Temprite

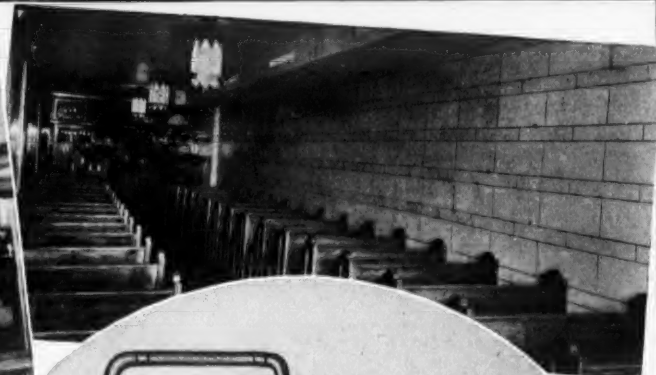
DETROIT — Temprite Products Corp. has announced the discontinuance of models S-500, M-500, and F-775 (F-500) control valves, and their replacement by 825 series valves on 22-W and 28-W units for both new and replacement applications.

In a service bulletin sent to distributors and dealers, the company notes that 825 series valves can be used to replace the old style valves in all applications, and that new units, having valves of this series, can be used to replace existing units in any of the Temprite fixtures.

Variety in Air Conditioning



Above: New Hankow Restaurant, New York



Upper right: Raphael's Mortuary Chapel, Phila.

Above: The "Griddle" New York

Left: China Lane Restaurant, New York



Above: M&E Compressor—Pickwick Dress Shop, New York

M&E
EST. 1866

The illustrations above show typical TYPHOON installations in restaurants, mortuary chapels, retail shops. TYPHOON, a successful and experienced air-conditioning company, standardizes on M&E COMPRESSORS.

... No job too hard for M&E COMPRESSORS

From "one-arm" lunchroom to World Fair auditorium M&E has come through with a measure of performance that has gratified the owner, boosted the installer, built good will for every interested factor. With a dozen new and important engineering refinements in the current line—no job is too hard for M&E Compressors! We'll be glad to send you a copy of our latest catalogue, with special air conditioning data.

The M&E COMMERCIAL CREDIT PLAN is available everywhere.

MERCHANT & EVANS CO.
PHILADELPHIA, PENNA. • Plant: LANCASTER, PENNA.

Air Conditioning

Conditioning Cited As Aid To Museums In Preserving Priceless Art Works

(Concluded from Page 1, Column 2) of art objects. We found that if the art museum and library of tomorrow has an air-conditioned room for storage and display not only will the public benefit, but also many famous art objects and books will be preserved in a better state for posterity.

"Besides the altruistic motive of preservation of collections, economic considerations enter quite strongly into the picture," he explained. "An air-conditioning system for museums should be designed for continuous operation, and will benefit the user by bringing considerable savings in maintenance of the collections themselves. Air conditioning lengthens the interval of time between necessary and costly restorations, possibly eliminates this expense entirely.

"There are two bases upon which air conditioning may be proved to be economically sound. First, con-

sidering the value of irreplaceable articles whose lives are lengthened through the maintenance of stable conditions of temperature, humidity, cleanliness, and non-acidity of the air. Secondly, considering the actual annual dollar savings due to less cleaning required for both buildings and art objects and the greatly reduced maintenance, restoration, and replacement required because of deterioration of all classes of museum pieces.

"The average size museum will spend from 15 to 20 thousand dollars annually for cleaning, maintenance, and rehabilitation. Based on a rather limited experience," the Carrier engineer concluded, "we believe this cost can be cut in half through the installation of complete air conditioning. Our analysis indicates that a museum can own and operate air conditioning at an annual cost equal to or less than these savings."

Torrington Sets Up New Testing Laboratory

TORRINGTON, Conn. — A new laboratory for the development and testing of propeller fans and blower wheels has been set up by Torrington Mfg. Co. Facilities are available for air testing according to the Nema code, and for pressure and exhaust testing of propeller fans up to 30-inch diameter, and blower wheels to 20-inch diameter.

Attic fans up to 48-inch diameter are tested in a housing designed to give performance similar to that obtained in actual experience. Facilities also are available for tests on fans used in unit heaters and coolers, oil burners, etc.

The laboratory is 30 x 100 feet, with a height of 16 feet.

Judge Wants Cooling For Summer Session

DALLAS, Tex. — United States District Judge T. Whitfield Davidson last week requested air conditioning of his courtroom in the Federal Building here to facilitate court business during the extended summer season.

The courtroom of Judge W. H. Atwell has been air conditioned since 1934, but no request for a similar improvement had been made by Judge Davidson. Noise during the May term of court, however, prevented attorneys from being heard at times when all the windows were open. Judge Davidson said he hoped this inconvenience would be eliminated in the future.

Joint Exhibition of Cooling Equipment Held In St. Louis

ST. LOUIS—Eight brands of air-conditioning equipment, with units ranging in size from the smaller packaged and portable jobs to the larger commercial systems, were on display here June 12 to June 21 in the cooperative exhibition staged jointly by the Air Conditioning Bureau of St. Louis and Union Electric Co., local utility.

The display, located on the first floor of the Union Electric building, was designed to show the various pieces of equipment in operation and to effectively convey the sales message of each manufacturer.

Each distributor exhibiting was given a separate booth and asked to invite his own prospects.

ADVERTISING USED

Three full pages of newspaper advertising (at a cost of \$2,200) were used to launch the promotion of the show. Nineteen local dealers and distributors placed advertisements of their own, tying them in with this generalized promotion. In addition, Union Electric sent out 10,000 engraved invitations to members of business men's organizations and to air-conditioning prospects turned in by the bureau, and also sent out a mailing piece directed at especially "hot" prospects.

E. A. Freund, Union Electric's air-conditioning manager, was in charge of the entire exhibit, as well as the utility's regular room cooler display.

Exhibitors were: Airtemp Construction Co., Airtemp; Fairbanks-Morse Co., Fairbanks-Morse; Frigidaire Sales Co., Frigidaire; Artophone Corp., Philco-York; Nash-Kelvinator Corp., Kelvinator; Sears & Plou, Inc., Carrier; Natkin & Co., Westinghouse; General Installation Co., General Electric.

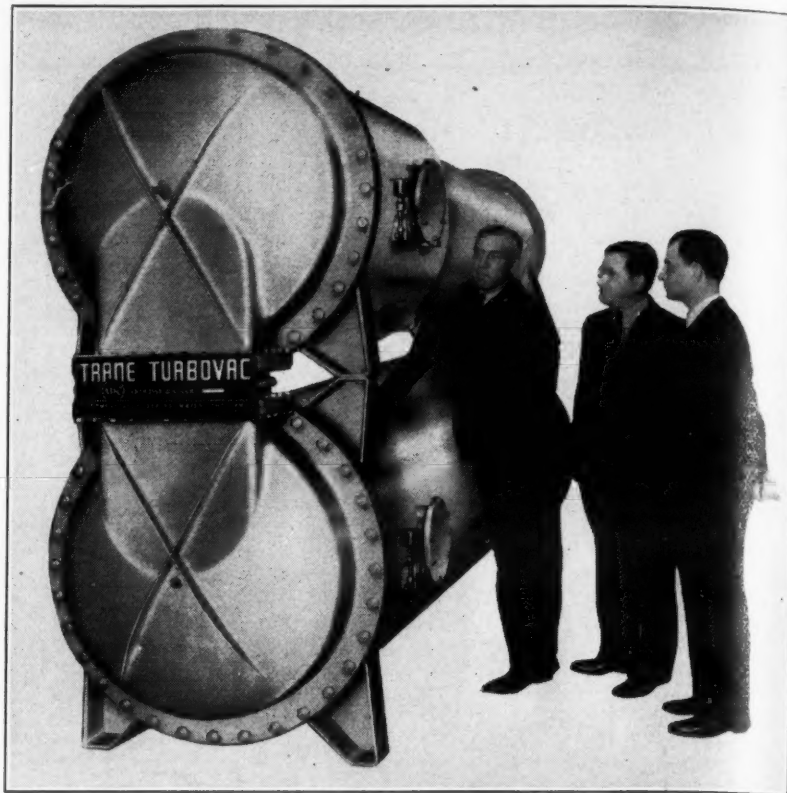
Giant Indicator Gauges Weather At N. Y. Fair

NEW YORK CITY—The "Carrierstat," giant weather-indicator towering 48 feet into the air, has taken up its task in front of the Carrier "Igloo of Tomorrow" as the official temperature gauge of the New York World's Fair.

Kathleen and Eileen Camp, identical twins garbed to represent nature's and man-made weather, officiated at the unveiling of the thermometer. Kathleen wore a snow white, form-fitting bathing suit—a streamlined version of uncontrolled heat waves, while Eileen was garbed in an abbreviated Eskimo costume, symbolic of science's conquest of the weather.

The Carrierstat will carry two readings—one indicating the temperature on Flushing Meadows, and the other the manufactured weather inside the cool Igloo.

New Trane Compressor



Reuben N. Trane (left), president of The Trane Co., looks over the new Trane Turbovac compressor with Vice President R. H. Anderegg, and William Goodman, chief engineer. Capacity range is from 65 to 80 tons.

Trane Centrifugal Compressor Designed To Permit Heat Transfer Surface Use For Heating, Cooling

(Concluded from Page 1, Column 5) easily for complete valve replacement. Suction gas is used to cool the compressor head. A splash-type system of compressor lubrication is used.

Suction and discharge valves are on one plate, made of close-grained electric furnace iron. Both suction valve and discharge valve are disc or washer type and made of Swedish steel. Large auxiliary ports, built into discharge valves and held by heavy springs, permit discharge of any accidental slug of liquid.

CONDENSING FACILITIES

Condensing unit control is through a combination low pressure control with high pressure safety cut-out.

All models can be furnished either with a condenser tank, or without condensing facilities, the latter models to be adaptable for use with an evaporative condenser.

Of its new centrifugal compressor, the Trane Co. says: "The Turbovac, completely self-contained, incorporates all of the mechanical essentials for the provision of chilled water for air conditioning."

Idea behind the Turbovac, says the Trane announcement, is to make possible the utilization of the same extended heat transfer surface for heating and cooling.

The refrigerant used in this new

water chiller is of the "Freon" family, and has a boiling point of 120° at atmospheric pressure, which means that the entire unit is operated under a vacuum.

The unit is powered by two motors—sealed in—which cut in separately, according to the load.

Impellers are of non-ferrous metal, and are given a static and dynamic balance with the motor on which they are mounted. There are two coils of the fin and tube type, one used to chill the water, the other to condense the refrigerant. The coils are constructed entirely of red brass.

SHELLS WELDED

Shells are electrically welded of heavy steel plates. All steel parts are heat treated after welding to prevent warping. All joints are sealed with neoprene gasket material. The unit is shipped knocked down in two parts.

Motors are oiled from the outside of the unit when it is in operation. The unit itself is approximately 11½ feet long, 8 feet high, and 4 feet wide, and weighs slightly more than 12,000 pounds.

The Turbovac is at present available in one size with capacity ranges from 65 to 80 tons. It is planned to add machines of 100, 150, and 200-ton capacity.

NEW... Tripl-Seal DIAPHRAGM VALVE

Licensed under U. S. Pat. No. 2,027,100

● The principle incorporated in the new Triple-Seal Valve greatly increases the life of the diaphragms, and, hence, the life of the valve itself in actual service. When the handle is turned, the diaphragms move downward slightly contacting the lever plate which causes the levers to multiply the travel of the stem in an approximate ratio of three to one in opening or closing the valve. In a word—a very small movement of the diaphragm produces a much greater movement of the stem. THE DIAPHRAGMS ARE NEVER DEFLECTED PAST THEIR NORMAL CENTER. This is the reason for their greatly prolonged service.

Valves are furnished in two-way, three-way and angle type—flare or solder type ends—and in complete range of all necessary sizes.

Detailed literature furnished upon request. ORDER THROUGH YOUR JOBBER

MUELLER BRASS CO.

PORT HURON, MICH.

The Completeness of the CURTIS Line Assures the Correct Equipment for Every Air Conditioning or Refrigeration Need

WHETHER you buy, sell, install or specify air conditioning or refrigeration equipment, there's a Curtis unit that fulfills every requirement. Curtis covers a wide range of markets—makes possible greater sales. And you can specify Curtis products with absolute confidence.

The Curtis Store and Office Cooler fulfills the air conditioning demands of all classes of retail establishments. It's a complete, factory designed, packaged air conditioning unit. It mechanically cools, dehumidifies, circulates and filters the air—is quickly and easily installed with only water and electrical connections needed—adaptable for heating, too. It is offered in 3 and 5 ton sizes.

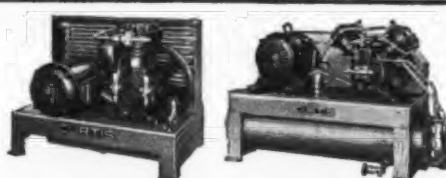
The Curtis Line of Condensing Units includes sizes from 1-6 H. P. to 30 tons air and water cooled—also unit coolers, coils, evaporative condensers, etc. Every Curtis product is precision engineered to deliver economical, efficient, care-free performance throughout an exceptionally long life.

Curtis Refrigerating Machine Company

Division of
Curtis Manufacturing Co.
1912 Kienlen Avenue,
St. Louis, Mo.



"Builders of Condensing Units Since 1926"



48 Air Cooled Units—45 Water Cooled Units —1/2 to 30 H.P.



The Curtis Store and Office Cooler 3 and 5 ton sizes

COLD CANVASS

"I think that we may assume that so far the merchandising of air conditioning has been a distinct failure as far as the industry as a whole is concerned. Its success will depend upon salesmanship of a high order, and I think it is equally obvious that this will be cold selling."

"In the setup of many of the corporations, the salesman awaits an inquiry, and then covers this inquiry. Much of his time is lost, and a great mass of business that might be created never develops. The reason for this, of course, is that many of the salesmen are high class engineers and have spent their lives calling on live prospects. These men do not know what it is to go into the street, walk in cold on a store owner and lay the groundwork for future selling."

"I am certain that if such men were economical with their time and explained what air conditioning would do to cold prospects, they could crystallize many, many more sales than are now realized."

—Extract from a letter.

IT is entirely possible to estimate the capabilities of a given group by its records of past performance.

In the specialty selling field outstanding is the record of those organizations who have been responsible for the astonishing sales of electric refrigeration. Right through the depression years they have produced sales.

These groups have never abandoned the cold canvass plan of selling. When times are tough it means only that they must work harder—make more calls—see more people.

It is natural to assume that if the efforts of such groups should be focused on the sale of air-conditioning equipment, sales by the air-conditioning industry would quickly be reflected by a sharply uprising curve.

IN the marketing of air-conditioning equipment the manufacturer may choose one of two types of distributing outlets—an organization that can sell or an organization that can't.

The manufacturer who places the sale of his equipment in the hands of an organization which waits for inquiries to be received and whose activity consists of submitting bids must be content with whatever business happens to come his way.

The manufacturer who entrusts the sale of his products to an organization with a solid background of creative selling experience may reasonably expect that a satisfactory volume of sales will result from intelligent selling effort. He can expect action.

In seeking the ideal type of outlet at least two considerations deserve careful thought:

1. Does the organization have selling ability? What is its past record?
2. Has this organization had experience in allied or similar products?

THIS line of thought naturally leads directly to those organizations who have been successful in selling commercial refrigeration equipment of all kinds.

It is just a step or two from commercial refrigeration to air conditioning and manufacturers may well contemplate this relationship in the marketing of equipment.

AIR CONDITIONING & REFRIGERATION NEWS is generally conceded to be the dominant publication in the commercial refrigeration field. It is carefully read by organizations successful in this field. It is the natural and logical medium through which advertisers may effectively contact these specialty selling groups who are experienced in cold canvass.



**Air Conditioning
NEEDS
SALESMANSHIP**

IN all the history of specialty selling, there has been found no substitute for cold canvassing.

Life insurance companies know this. And so do the manufacturers of major electrical appliances. It is their selling plan.

The entire background of the electrical industry has been one of specialty selling—from the extension of power lines to the appliances used on those lines.

For a great many years the public got along very nicely with candles and oil lamps, wash tubs and scrubbing boards, ice boxes, coal stoves, and brooms.

But today electricity is widely used for many purposes. Electricity has been sold.

Air Conditioning & Refrigeration News

"The Newspaper of the Industry"

AIR CONDITIONING & REFRIGERATION NEWS

Trade Mark registered U. S. Patent Office; Established 1926 and registered as Electric Refrigeration News

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JUNE 28, 1939

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Looking at TVA Sensibly

READERS of the NEWS may recall that it was the TVA which first evoked editorial criticism of the present Administration on the part of this publication. Up to that point the NEWS had "cooperated 100%," had considered itself a "rooter." But the TVA was a horse of a different color, both in concept and in administration.

Impatient David Lilienthal forced manufacturers into manufacturing the biggest dud of their collective careers—the "chest model"—by threatening to put TVA into the manufacturing business. EH&FA caused the enfranchisement of hundreds of shoestring dealers who made it tough for other dealers, and finally went out of business. And the forced utility merchandising which followed put many more dealers—subscribers to the NEWS—on the skids.

TVA Has Been Headache To Appliance Industry

From the standpoint of the industry, TVA was a headache. From the standpoint of the nation-at-large, TVA was, in its aims and manner of operation, a public scandal.

Even the chairman of the Authority, Arthur E. Morgan (a great engineer, a great educator, and a man whose public and private life has been not only above reproach, but justifiably eminent), rebelled at the roughshod tactics of his fellow-administrators in TVA's pellmell rush toward socialization of private industry. Mr. Morgan was removed from his position by the President for "contumacy," i.e., voicing his criticisms publicly and bluntly.

House Passes Bill Which Restricts Agency's Growth

Truth will not down permanently, however, and last week the House of Representatives passed a bill which would restrict the generation and distribution of electric power by the TVA to the

Tennessee Valley, remove governmental guarantees from TVA bonds, cause TVA to pay back to the government its capital investment, charge rates which will cover costs, and submit to audits by the General Accounting Office.

TVA started out as a flood control project which coincidentally would furnish power to private customers, and serve as a "yardstick" on rates. It soon developed into a paternalistic movement which was out to destroy the public utilities (first in that section, later progressively elsewhere throughout the country).

'End Justifies the Means' Philosophy Prevailed

It was demonstrated that when flood control interfered with power production, flood control was neglected. It was further demonstrated that honest book-keeping was not considered so important as the "main objective." It was also demonstrated that TVA apparently had little intention of returning or even paying interest on the "capital" voted it by Congress, that it would pay no taxes (the utilities pay heavy tax assessments), and that it would force the utilities to sell out by threats. What kind of a yardstick could such methods provide?

Regional Socialization Scheme Appears To Be Blocked

Having established a pattern in the Tennessee Valley, the socialists had an elaborate scheme for dividing the rest of the United States into "little TVA's," eventually, it was said, to supplant the sovereign States.

If the House bill as described above passes the Senate, their grandiose scheme to socialize the nation piecemeal would appear to be partially blocked.

Commencement

JUNE is the month of the white veil and black cap-and-gown. Both the bride and the graduate should interest the air conditioning and refrigeration industry.

The bride, of course, is a prospect—for everything from toasters to complete electric kitchens and air-conditioned homes. Many dealers are finding it profitable to set up wedding-gift window displays. Many more are following the marriage license bureau announcements, and reading the society pages of the newspapers.

Marriages on the Increase; Appliance Dealers Grateful

Marriages have been on the increase in 1938 and 1939, for which fact the appliance dealer is thankful; inasmuch as every new home (whether apartment or house) means a new prospect for a whole series of electrical aids to better living.

As for the graduates—both from high school and college—they are interesting from another point of view. The electrical appliance industry is at present suffering from a dearth of good salesmen.

Thousands were washed out last year during the orgy of price-cutting which turned so many dealers into come-and-get-it-make-me-an-offer discount shops, and which forced so many other

dealers out of the business entirely.

Dearth of Good Salesmen In Appliance Business

Factory executives returned from their field convention trips this spring mopping their brows over what had happened to selling forces throughout the land. Some of them immediately went into action on intensive, expensive, sales training programs.

Air conditioning, too, is in need of good salesmen. It never has had enough. And now that most of the leading manufacturers are turning from the plumbers to the commercial refrigeration dealers for their distribution, it seems entirely likely that a new deal all around will be in order for salesmen.

Recent Graduates May Be Useful as Junior Salesmen

Why not look over the current crop of high school graduates in your home town for prospective appliance salesmen? And how about engineering-trained college graduates for air-conditioning salesmen? Of course they'll have to be trained. All salesmen do. But here come eager young men, anxious to show the world that they can gain their rightful place in it, full of youth and energy and ambition.

Most of them are not as yet weighed down with personal burdens and problems which might tend to take their minds away from their jobs. Some of them are serious-minded enough to forget their addiction to jitter-bugging in order to get a good start in life. And all of them are expecting to start at minimum wage scales.

Supply of Good Men Dwindles, Needs Replenishing

From 1930 to 1934 the appliance dealers of the country found good salesmen aplenty from the capable men who had lost other jobs. This supply of good men seems to have dwindled. Perhaps another source of manpower needs to be tapped.

There aren't many problems facing appliance and air-conditioning dealers today which good salesmanship won't help solve.

They'll Do It Every Time . . . By Jimmie Hatlo



LETTERS

Dealer Feels 5-Year Warranty Too Long

Meinecke Bros.
(More than Just a Hardware Store)
Lubbock, Tex.

Editor:

I was particularly interested in the article on page 6 of your June 7 issue "Bidding vs. Selling." I heartily agree with you that there is too much "bidding" and not enough "selling"; that is the entire fault of the Dealer Organization, however, I believe that the manufacturers of electric refrigeration, and particularly household refrigeration are stressing "Long Term" guarantees entirely too much.

While the Warranties and Protection Plan are reasonably clear when the consumer customer will read them, it is oftentimes misunderstood because the customers are not familiar with refrigeration mechanical terms.

It is true that in many cases manufacturer's parts do not need replacing when service calls are made in the second year, but these service calls are expensive to make and service charges are very difficult to collect because the customer is under the impression that service calls and all parts are guaranteed for five years, and no charge whatsoever should be made.

Now, the manufacturer may think that such a condition is the Dealer's worry and none of theirs, but there is being a great amount of ill will created against the particular brand the customer might own, whereas, if the customer had absolutely no cause for misunderstanding, they would be satisfied to pay a small service charge and no ill will would be created against the Dealer or Manufacturer.

I would like to see you ask for opinions from all dealers regarding this question, and as for me, I would like to see all refrigerator manufacturers drop back to one year guarantee on the entire refrigerator including one year free service. An automobile sells for more than a refrigerator and is guaranteed for 90 days. They are smart, let's be smart too.

A. S. MEINECKE, Manager

John Ditzell Asks: 'What Can You Do?'

Stewart-Warner Corp.
Chicago, Ill.

Mr. Meinecke:

We have read with much interest the copy of your letter addressed to AIR CONDITIONING & REFRIGERATION NEWS, under date of June 20.

By experience we know that retail customers often misunderstand the terms and conditions of the 5-year warranty plan, particularly that part as it pertains to the four additional years. Also, we are aware of the fact that these misunderstandings often cause dissatisfaction on the part of the consumer and invariably prove to be expensive to the dealer.

However, I should like your opinion as to how any one manufacturer, such as an example—Stewart-Warner

—could overcome that phase of the 5-year warranty to which you object and which has been sponsored by the larger manufacturers in the refrigeration industry. The 5-year warranty plan is now almost a tradition within our industry, particularly as it affects the hermetically sealed type of unit.

It is our impression that after many years of advertising by prominent manufacturers the buying public expects and demands a 5-year warranty. Assuming this is true—how could any one manufacturer of a hermetically sealed unit overcome the sales disadvantage if his product were without this warranty?

I personally feel that a 5-year warranty plan is only the result of precedent, and it probably would be to all of our advantage if it were discontinued. On the other hand, there are many arguments in its favor, especially in reference to a hermetically sealed unit. In fact, the arguments in favor of the 5-year warranty, at least in the past, have been of greater strength than any arguments against it—the result, all manufacturers now follow the same course.

However, as stated, if you have any plan you feel a manufacturer should consider in opposition to the 5-year warranty, we would greatly appreciate the benefit of your advice and experience.

JOHN F. DITZELL,
Sales Mgr., Appliance Div.

Now What Do You Say To This, Mr. B?

York Ice Machinery Corp.
York, Pa.

Editor:

While the York Ice Machinery Corp. would not be able to set a precedent by paying E. F. Bethancourt's railroad fare, we would certainly recommend that he repeat his recent trip there before he pretends to speak with so much authority on a number of air-conditioning installations in Phoenix, Ariz.

York would not even pretend to claim all of the air-conditioning installations in Phoenix, nor is the following list by any means complete, but it just happens at the moment we were reading Mr. Bethancourt's letter in the June 14 issue of AIR CONDITIONING & REFRIGERATION NEWS there came to our desk a list of 17 York installations in that city. So that Mr. Bethancourt can confirm our contention, here is the list:

1. Fox West Coast Theater.
2. Korrick's Department Store.
3. Goldwater's Department Store.
4. Dorris-Heyman Furniture Store.
5. Adams Hotel.
6. F. W. Woolworth Store.
7. Baker's Shoe Store.
8. Goodrich Building.
9. Western Union Offices.
10. Winter's Building.
11. Craig Building.
12. New U. S. Post Office Building.
13. Grunow Memorial Clinic.
14. Ellis Building and Properties.
15. Biltmore Hotel.
16. San Carlos Hotel.
17. Thom McAn Shoe Store.

This is York's contribution—let other manufacturers "speak their piece" in refuting Mr. Bethancourt.
A. C. EVANS,
Sales Promotion Div.

With Ansul



RAY POLLEY

Polley Directs Ansul's Southwest Interests

(Concluded from Page 1, Column 4) organizer in California for the "Superior" line of refrigerators. In the same year the Zerozone Corp. was organized and Mr. Polley joined the firm, installing the first "Zerozone" to be put into the field.

He eventually became Zerozone's national service manager.

In 1933 Mr. Polley almost single-handedly set up a national service department for Mills Novelty Co., composed of 600 independent service men, to handle servicing of its counter-freezer equipment.

When Mills went into the commercial refrigeration machine business about four years ago, Mr. Polley became sales manager of the refrigeration division, and built a large distributing organization in a comparatively short time.

Vacuum Cleaner Sales Up 15% During May

CLEVELAND — Vacuum cleaner sales increased 14.9% during May over the same month last year, Vacuum Cleaner Manufacturer's Association reports. This was the seventh consecutive month to show a gain over prior-year figures. Following is a comparative summary:

	1938	1939
May	114,377	99,542
Five Months	606,579	593,265

A "Three-Quarter" DISPLAY CASE that "Sells on Sight"!

... MAXIMUM DISPLAY—plus full-length storage in Base—4½' to 10' lengths ... STAINLESS STEEL Baffles, Drip Pan and entire interior of storage compartment ... Heavy retinned (Display) Shelves ... PORCELAIN lining in Display Section and exterior ... Three-light PLATE GLASS front ... Composition sliding doors—electric lights ... Counter Extensions available up to 75" in length.



Series 5300

Write for Copy of our New Catalog

GLOEKLER MANUFACTURING COMPANY
FACTORY SALES OFFICE
ERIE, PENNSYLVANIA 431 FOURTH AVENUE, PITTSBURGH, PENNA.

Oakland Association On Warpath Against 'Free Goods' Offers

(Concluded from Page 1, Column 3) wrong in the policy that there is no profit in giving away what could be sold.

"We have had recently a rash of borderline 'combinations' that make the policy look rather motheaten.

"We have all sorts of dishes with refrigerators, and records with radios.

"Now it is easy to see how one refrigerator company might, at the factory, include a full set of dishes with a refrigerator, but where does that leave the merchant handling some other brand whose manufacturer has not been so 'alert'?"

"And it is true that combination phonograph-radios use records, and 'free' records might be standard equipment; but where do 'free' records with any kind of radio come in?"

"Surely a clothes basket and clothes line are as much standard equipment for a washing machine as records for a phonograph or a square dish to store cold potatoes in is standard equipment for a refrigerator.

"This office is swamped with complaints about this and that kind of 'combination' that the competition carries.

"Our hands are in the air. Perhaps later on this summer or in early fall you will again be in the mood to take a look at this free goods business.

"But in the meantime, as the local consumers are flooded with offers of combinations, please avoid the use of the word 'free' and tell them the cold blooded truth: The cost of these extra items is included in the markup and we are making a profit on them also, so they ain't free."

Preston & Bishop In Twenty-Fifth Year

HOLYOKE, Mass. — Preston & Bishop is celebrating the twenty-fifth anniversary of its establishment as an electrical appliance dealership here. Ernest S. W. Bishop, treasurer of the company, sold the first electric refrigerator in Holyoke.

Starting as half-occupant of an upholstery shop at 237 Maple St., the firm later took over the whole location, and later purchased the property at 235 Maple St., doubling its quarters. Mr. Bishop is in charge of the merchandising, while Ernest T. Preston handles contracting activities.

Macy's Appliance Men Handling Sales of Crosley Car

(Concluded from Page 1, Column 2) subsidiary of Macy's, also opened showing of the cars in that city last week. Proportionately enthusiastic response was reported, and five sales had been made by the week-end.

Although the Crosley cars are being shown in Macy's basement appliance section, main-floor customers can't miss knowing about it, for one of the cars is displayed on a platform just over one of the stairways leading to the basement section.

The main display in the store's major appliance department includes a four-passenger convertible sedan and a skeleton chassis, shown on a slightly raised platform inside a roped-off enclosure.

Appliance department men are handling sales work on the car, four of them taking turns in manning the display. Bolstered by an intensive training course given by a factory representative, the men apparently are having little difficulty answering the thousands of questions tossed at them by both prospects and "lookers."

No trade-ins are being accepted on the car, but it is said that this has in no way been a handicap to sales.

These are "cash" prices, but a financing arrangement of 12 to 18

months is available through arrangement with C.I.T. Corp., with regular 6% carrying charges. These are standard car-purchase terms.

The "demonstration" problem is taken care of by whisking prospects over to a 25th St. and 11th Ave. service station, where young lady drivers are available to take customers for a spin up and down the West Side express highway.

Macy executives emphasized that the present set-up is still in the experimental stage, and doubtless will require some modification later on, depending upon whether or not the public is receptive to a car of this type. Any move as radical as selling automobiles in a department store is bound to have its own special problems and requirements, they declared.

For retailers who might be contemplating the merchandising of automobiles, average mark-up on the cars is said to be around 15% maximum, small in comparison to the usual 33½ to 40% range on major appliances. This discount varies somewhat in different communities, it is said, depending upon local conditions and requirements, and is based on a sliding scale determined by whether the dealer buys one, three, or 10 cars—the 10 constituting a carload.

Automobile selling and appliance selling cannot be directly compared, however, a Crosley spokesman pointed out, and dealers who want to sell cars must be governed by the rules of that game. An average gross of 15% would be heaven to most car dealers, it was said.

ASRE Committees Plan Survey of Colleges & Trade Schools

(Concluded from Page 1, Column 4) approved by the state or some authorized group or agency?

Project No. 2 will be to construct a specific program of instruction for trade schools and company employee classes, indicating:

- (a) Part to be taught by the school.
- (b) Part to be taught by the company.

The program of instruction will be divided into two parts suitable for:

(1) Engineers going into test and research for a manufacturers and special application work for distributors.

(2) Servicemen who plan to affiliate themselves with distributors, dealers, etc.

Following are the assignments of committee personnel:

For colleges and technical schools, Part 1, B. Jennings, Chairman, C. L. Svenson, H. E. Keller, and J. F. Nickerson.

For correspondence schools and private trade schools, Parts 1 and 2, F. M. Cockrell, Chairman, H. J. Macintire, R. U. Fittz, and E. S. Libby.

For trade schools and factory classes, Parts 1 and 2, R. D. Wood, Chairman, D. W. McLenegan, and F. C. Stewart.

More Haste
• • LESS SPEED

There is often a temptation to solve an immediate problem quickly on the basis of today's conditions only. But we have found that such solution usually brings about several more problems tomorrow, each more serious than our original one. Therefore, in solving our problems and in determining our policies, we make every effort to consider the future as well as the present.

UNIVERSAL COOLER CORP.
DETROIT, MICHIGAN BRANTFORD, ONTARIO



The policies expressed in the above advertisement published seven years ago are in no small measure responsible for the progress of this company. These same policies are being followed today.

You can CASH in on this TIMELY HELPFUL NEWS



Artic
(DU PONT METHYL CHLORIDE)

SERVICE NEWS

Use this coupon for information you won't find anywhere else



E. I. DU PONT DE NEMOURS & CO. INC.

The R. & H. Chemicals Dept.

Wilmington, Delaware

District Sales Offices: Baltimore, Boston, Charlotte, Chicago, Cleveland, Kansas City, Newark, New York, Philadelphia, Pittsburgh, San Francisco

Gentlemen: Please send me the current issue of "ARTIC" Service News and put my name on mailing list to receive future issues.

Name

Company Position

Address City State

New Products

'Air-Cooled' Radio Set Marketed By Detrola

DETROIT—Elimination of "hot air" from Detrola Corp.'s new "Life-Saver" portable a.c.-d.c.-battery radio set is said to preserve battery power and thus to lengthen the life of the unit. Cooling effect is accomplished through an aluminum heat-eliminating plate and provision for free circulation of air within the set.

A simple switch converts the receiver from a.c.-d.c. to battery, or vice versa, and this feature is said to triple the life of the batteries. Other features of this 5-tube super-heterodyne unit include an over-size electro-dynamic speaker with permanent magnet, automatic volume control, and a large directional antenna loop. No aerial or ground is needed.

The Life-Saver is available in airplane luggage finish at \$24.95 and in tan or white "Detrola" cowhide at \$29.50.



Ask for
VIRGINIA
EXTRA DRY
ESOTOO
•
V-METH-L

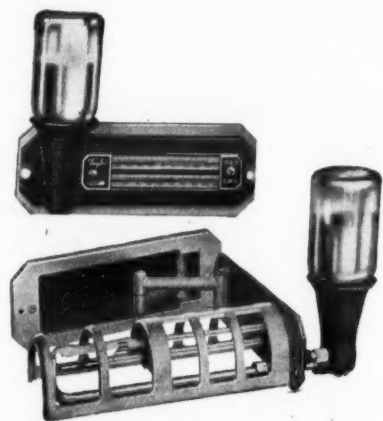
Drop in at your
Virginia jobber—
he stocks
dependable parts
and supplies.

**VIRGINIA SMELTING
COMPANY**
WEST NORFOLK, VIRGINIA

Easy Servicing Claimed For New Hygrometer

ROCHESTER, N. Y. — A new hygrometer (No. 10BG) which is claimed to combine high accuracy and legibility with easy accessibility for installation and routine servicing has been introduced by Taylor Instrument Companies.

By loosening two thumb screws, the complete assembly swings out on a triple-hinged bracket. Wet and dry bulbs have been staggered, and can be used in either horizontal or vertical ducts without being on the same plane. This is claimed to as-



sure proper circulation of air across both bulbs under all conditions.

New type skeleton guard around the bulbs prevents breakage, but is designed so as to have no heat capacity effect to alter the temperature of air around the bulbs, or to hinder free circulation of air.

Flat tube scales of the instrument are mounted horizontally, to make the mercury column easier to read. The etched numerals on the back of the thermometer tube are filled with black pigment and covered with an orange-yellow lacquer for maximum legibility and contrast.

Rubber grommets insulate the thermometer stems and bulbs from all metal parts, to eliminate bulb conduction error and cut down danger of breakage from mechanical shock. Required opening in the duct for installation is 8 x 2 1/4 inches, and no extra hand hole is required for installation or servicing.

In operation, water is supplied the wick by filling the water bottle and inverting it in the bottle holder, which is designed to take the regular "stubby" beer bottle. All water-contacting parts are corrosion-treated.

Where a pressure or a vacuum of more than 1/2-inch of water makes a bottle-fed hygrometer impractical, Taylor has designed a hygrometer with constant level reservoir, a tapered unit of corrosion-resistant materials, requiring a 4 x 8-inch space for installation, and with height of water adjustable in both float and wick chambers.

Friez Thermostats Have Coiled Element on Top

BALTIMORE—A new line of self-contained space thermostats featuring the "hydraulic action" principle has been announced by Julien P. Friez & Sons.

Designed for installation in unit coolers, walk-in refrigerators, and other applications where heavy load carrying capacity (up to 1 1/2 hp.) without relays is required, the units have a coiled element on top of the case, to assure high sensitivity.

Refrigeration Hardware Shown In Kason Catalog

BROOKLYN—Hundreds of items of refrigerator hardware and store fixtures are illustrated (many actual size) and fully described in the big new 115-page catalog issued by Kason Hardware Co.

Sections of this catalog are titled as follows: Refrigerator latches; Semi-concealed hardware for refrigerators; Hinges; Freezer and cold storage door hardware; Store fixture and showcase hardware.

Table-Top Ironer



Housewife Can Carry New Kelvinator Unit

DETROIT—Kelvinator has just placed on the market a new low-price small size portable electric ironer that will sell at a factory list price of \$29.95.

Weighing only 27 lbs., the ironer can easily be carried by the user to those parts of the house where it's coolest, most comfortable, and most convenient at the moment to do the family ironing. It can be stored in closet or cupboard.

Heavily padded roll, 18 inches long and 5 inches in diameter, is open at both ends, making it possible to do the whole ironing job, from handkerchiefs to sheets and large articles of clothing.

Ironer shoe is of hard metal, chrome plated, and is equipped with a thermostat providing both "on" and "off" switch and temperature control. Hand lever controls operation of the shoe and roll, and a pressing switch is located on the side of the mechanism housing. The ironer is finished in white baked enamel.

Low Price Washer Added To Apex Line

CLEVELAND—A new low price all-white washer has been added to Apex Rotarex Corp.'s line of home laundry equipment.

The unit has a 16-gallon tub, with washboard sides and quick drain bottom, and double dasher agitator. Chassis is electrically welded, with 10-inch base. All mechanism gears are machine cut, and are powered with a direct-drive 1/4-hp. motor.

Model 330 in the Apex line, the washer has a Lovell wringer, with 2-inch rolls, push-bar pressure release, and adjustable pressure setting for different fabrics. Wringer is finished in aluminum. The model may be had with or without a self-emptying motor-driven pump.

'Accumulator' Stores Up Refrigerating Effect

MINNEAPOLIS—The "Cold Accumulator," a copper plate ice reserve type unit for storing up refrigerating effect to handle heavy cooling loads of short duration, has been introduced by McQuay, Inc.

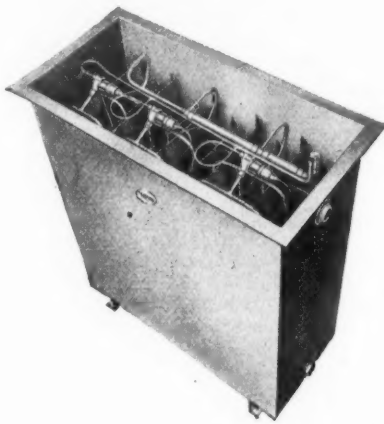
Designed for application in dairies, creameries, beverage bottling plants, and air-conditioning work, the new unit has been field tested in more than 30 plants during the past two years, it is claimed.

In creamery, dairy, and bottling plant, the unit is said to permit use of a small compressor and deliver 35° water uniformly. In the air conditioning of such places as churches, clubs, mortuaries, and meeting halls, its use is said to effect a substantial reduction in original investment.

The "Cold Accumulator" is built up of heavy copper plates, to which copper tube primary surface is attached. Groups of these plates, spaced properly, form a section, with one thermal valve used for each section.

Plates are staggered in each assembly so as to provide alternate dams, causing the water to flow up and down several times to secure necessary low temperatures. Control of thickness of the ice bank on the plates is automatic, and is the subject of a patent application now pending.

Operation of the systems during "off peak" periods, by arrangement with power companies, make possible further reductions in operating costs, the company points out.



Truck Firms Merged

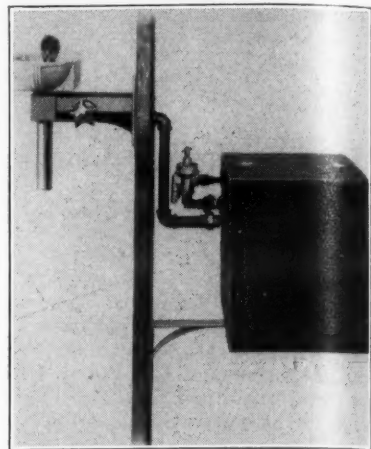
KEOKUK, Iowa—Thomas Truck & Caster Co. has purchased the business of Wm. H. Sippel Corp., South Bend, Ind., and has combined that company's line of truck casters, floor trucks, industrial trailers, and skid platforms with its own casters and trucks line.

Remote Type Coolers Added By Cordley

NEW YORK CITY—New line of remote-type water cooler units, said to eliminate necessity for long runs of circulating cold water by providing cooling at single or multiple points of use, has just been introduced by Cordley & Hayes.

These remote units consists of a high-efficiency cooling unit, combined with water tank and coil. Refrigerant is run through copper tubing to each cooler from a condensing unit installed in any out-of-the-way location.

Design of the units is claimed to safeguard against danger of freeze-ups, and water entering the refrig-



erating system. Long runs of insulated water pipe also are eliminated.

Compact, the units may be installed out of sight behind partitions, under counters, in nearby closets, or other convenient locations. They are built in two sizes, wall and floor cabinet types, up to 40 and more gallons per hour, depending on size of condensing unit used.

Thin Band Saws Packaged In 100-Foot Lengths

MINNEAPOLIS—The new method employed by Continental Machines, Inc. in packaging the narrow blade band saws which it manufactures is said to eliminate any possibility of the coil getting out of control, to give complete protection to the delicate saw teeth, to minimize danger of rust, and to simplify storage and dispensing.

All "Doall" precision blades in 100-foot lengths or longer are now packed in a coil within flat, square cartons. When a length of blade is desired, the continuous strip is pulled out as far as necessary through a slot in one corner of the box and then cut off at the proper point.

ANNOUNCING - - - THE DETROIT AIR FILTER

Formerly the Arco Air Filter

• In addition to new improvements the Detroit Air Filter retains all of the exclusive and unusual features of the Arco Air Filter under which name it was formerly sold.

Write for Bulletin No. 187



DETROIT LUBRICATOR COMPANY

General Offices: DETROIT, MICHIGAN

Canadian Representatives—RAILWAY AND ENGINEERING SPECIALTIES LIMITED
Montreal • Toronto • Winnipeg

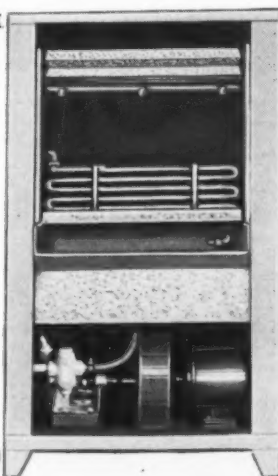
Cut Power and Water Costs MARLO EVAPORATIVE CONDENSERS

For greatest operating economy investigate these outstanding Marlo features:

1. Generous condensing surface.
2. Complete corrosion resistance; all inside surfaces asphalted over galvanizing.
3. Positive water circulation; water outlets provided from pump for compressor head.
4. Weight; generously proportioned heavy gauge frame and housing. Larger sizes are sectional, promoting easy installation.
5. Smallest practical floor space consistent with high performance.
6. Quiet; designed to operate with minimum vibration and sound.

Write for Special Bulletin No. 394

MARLO COIL CO., 6135 Manchester Ave., St. Louis, Mo.
Canada and British Isles: Universal Cooler Co., Brantford, Ontario
Manufacturers of Complete Line of Low Side Equipment.



Inside View
1-, 2-, and 3-ton Design

X-3

Jobber Activities

Woman Jobber Sees Need For Closed Territories; Names Other Ills & Cures

By Henry Knowlton

KNOXVILLE, Tenn.—Restricted territories are essential to the success of refrigeration supply jobbers, according to Mrs. B. H. Leinert, who operates a jobbing business here in connection with her husband's Leinert Engineering Corp., manufacturers' agent.

"We find service men in Kingsport, Tenn., which is right under our nose, buying from a jobber in Roanoke, Va.," Mrs. Leinert said. "We have discovered that jobbers from Nashville and Atlanta work the Knoxville territory actively, selling the same lines of equipment we sell to our trade."

Sometime, Mrs. Leinert has found, the competing concern from out of town gives the service man a little better price than she is able to give, or permits him to buy in a higher quantity price bracket than the one he is normally entitled to. For this reason she believes that refrigeration supply jobbers should operate only in closed territories on many items.

The Leinert company is the only refrigeration jobber, strictly speaking, in Knoxville. Some large refrigeration distributors carry quite a line of parts, as a courtesy to their own dealers and dealer's service men, but the Leinert organization is the only jobber operating independently of a refrigeration distributing business.

SMALL MANUFACTURERS

Mrs. Leinert reports that many of her price troubles originate with small local manufacturers who buy from equipment sources at a "manufacturer's price," which she claims is often lower than the jobber price. The small manufacturer then unloads the parts on service men at prices well below the established market, she has found.

Concerns of this type manufacture a few commercial refrigerators each year, the majority of which are sold locally, but because they are "manufacturers" they sometimes have a preferred price position on refrigeration parts, Mrs. Leinert states.

There have been instances when the small manufacturer became overstocked on a certain item and unloaded it on the trade at reduced prices, for cash. This is another reason why Mrs. Leinert believes

jobbers should have protected, closed territories.

SCATTERED CATALOGS

Mrs. Leinert deplores the practice of refrigeration jobbers who broadcast their price catalogs in places where people outside the trade can have free access to discount sheets, net prices, and other confidential information.

"Just the other day a chain grocery operator came in with one of our best customers," Mrs. Leinert said. "I quoted a price on a certain valve at \$14, which included a \$7 profit for the service man. The grocery owner immediately stated that he knew where he could buy the same valve direct, for less, so the sale was lost right there, and the service man's profit with it."

"Refrigeration jobbers should not let their catalogs get into the hands of anyone who comes along, as the jobber cannot sell direct and at the same time protect his own trade," Mrs. Leinert asserts.

TROUBLE GETTING PARTS

Mrs. Leinert is unable to understand why she has difficulty getting delivery on parts from some refrigerator manufacturers when, she states, refrigeration service men can order parts from the same concern and get immediate delivery.

"We have had some parts on order for weeks," Mrs. Leinert said, "and some of our customers are able to get parts from the same company in a few days. They seem willing enough to accept our orders, but there is always some unreasonable delay in getting them filled."

Mrs. Leinert has found that promotional meetings, conducted by representatives of the manufacturers are a good thing. One meeting held at the Leinert company early this year was devoted to Detroit valves and brought about an immediate increase in Detroit valve business, Mrs. Leinert said.

TWO CAMPS OF SERVICE MEN

Early this year Mrs. Leinert began the organization of a local chapter of the Refrigeration Service Engineers Society.

Use of the Leinert company offices was offered as a place for the meetings which were held every two weeks for a period of two months. At the end of this time the group disbanded, without electing permanent officers or establishing an organization.

Reason given by Mrs. Leinert for the failure of the society was the fact the household and commercial service men have very little in common. Both sections wanted to talk about their own end of the business, she discovered, and neither group was willing to give ground to the other side.

Another reason for dissension among household service men was found to be hourly work rates. The service man who obtained \$1.25 per hour for his time did not have any sympathy for the marginal operator who was willing to work for 50 cents per hour or less.

Although Mrs. Leinert warned the group against getting into any discussion regarding prices and hourly rates, they soon became primary topics at the meetings and were a factor in causing the group to disintegrate, she believes.

To Mrs. Leinert's way of thinking the refrigeration supply jobber should not only have a closed territory, but should also work on a wider margin of gross profit resulting in a higher net.

She compares her jobbing business with Mr. Leinert's business as a manufacturers agent, where commissions run as high as 50%, no capital is invested, and no credit risk is taken.

"In the jobbing business it is necessary to invest money in stock, pay freight on merchandise, extend credit to the trade, and collect the accounts," Mrs. Leinert said.

"All this must be done on a much lower margin of profit than Mr. Leinert gets as a manufacturers agent. He invests no money, takes no risk, and comes out with a much higher percentage of profit than I am able to get out of the jobbing business."

"Many items are priced so close that no profit can be made out of them," Mrs. Leinert said. "The independent supply jobber will have to have a wider margin of profit and restricted territories if he is going to survive," Mrs. Leinert declared.

New Catalog Issued By Republic Electric Co.

DAVENPORT, Iowa—New catalog listing the complete line of refrigeration, air conditioning, and automatic heating supplies and equipment carried by Republic Electric Co., jobber, is now ready for distribution to customers, reports E. L. Bengston, manager.

Middle Atlantic Jobbers Form Association

PHILADELPHIA — The Middle Atlantic Refrigeration Supply Jobbers Association was organized, and a complete set of by-laws adopted, at a meeting held here last month.

H. V. Dick of Henry V. Dick Co., Charlotte, N. C., was elected president of the new association, and Frank I. Purtell of M & E Accessories Co. was named secretary.

Membership in the organization is made up of jobbers in the area from the New York State border to Georgia, and from a line drawn through Pittsburgh and western North Carolina to the east coast, excepting Metropolitan New York. All but three jobbers invited to the meeting were present when the organization was formed.

Next meeting of the association has been set for Baltimore on Monday, Sept. 25, reports A. H. Holcombe, Jr., of Victor Sales Corp., Philadelphia jobber.

Karl Bergquist Joins Airo Supply Co.

CHICAGO — Karl Bergquist, formerly manager of Borg-Warner's refrigeration parts division, has joined the staff of Airo Supply Co., Chicago parts and supplies jobber. He will contact servicemen in Chicago and vicinity and will assist with other details under the direction of E. W. Scotten, store manager.

F. T. C. Criticizes Methods Of Chicago School

Commission Denies That Air Conditioning Offers 'The Chance of A Lifetime'

In a formal complaint dated June 7, 1939, the Federal Trade Commission has notified Refrigeration & Air Conditioning Institute, 2150 Lawrence Ave., Chicago, to appear at a hearing to be held in Washington, D. C. at 2:00 P.M., July 14 to answer a series of charges that its methods of advertising and selling its courses of study are misleading to the public.

The Commission takes particular exception to statements appearing in the school's advertising literature to the effect that the air-conditioning industry is growing rapidly and that its future development will provide jobs for large numbers of trained men to sell, install, and service the equipment.

The Commission claims that "in truth and in fact; there is not now, nor has there been for the last year or two at least, any great demand for men in the refrigeration and air-conditioning industries or for new men not already connected therewith or that is not capable of being principally supplied through regular channels in the industries involved—that it is incorrect and greatly exaggerated to represent that by enrolling in respondent school one is accepting the chance of a lifetime."

ROTARY

HOT WEATHER TIP!

REMEMBER, when the mercury begins to climb and shaft-leak service calls pile up, you can complete more jobs each day and make a bigger profit by using Rotary Seal Units.

Made For 117 Different Models

SEAL

ROTARY SEAL COMPANY

803 W. Madison St. Chicago, Illinois
Continental European Office: Waldorpstraat 52, Den Haag, Netherlands.
Canadian Office: 382 Victoria Avenue, Westmount, Montreal.

ELECTRIMATIC SUCTION THROTTLING VALVES

TEMPERATURE ACTUATED & PRESSURE ACTUATED TYPES

1/2" FPT
Full 5/8" O.D.
Line Capacity

For Unit Coolers, Sweet Water Baths, Ice Cream Storage, Milk Coolers, Multiple Jobs, etc.

Speed Wrench Adjustment
WRITE FOR PARTICULARS

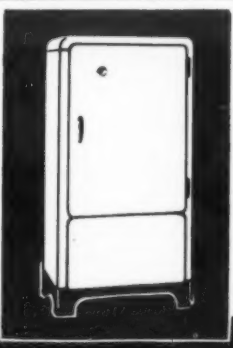
THE ELECTRIMATIC CORP.
2100 Indiana Ave., Chicago, Ill.

Copeland Priced for Profit!

Copelands make money for you, because they're easy to sell! Your customers recognize Copeland's engineering superiority and record of long service. Low prices, easier terms will clinch your sales. There's a Copeland for every home. Write TODAY for complete information on Copeland's bigger values!

COPELAND REFRIGERATION CORPORATION, Sidney, Ohio

ASK ABOUT COPELAND COMMERCIAL REFRIGERATION AND WATER COOLERS



Distributor-Dealer Doings

Westinghouse Electric Supply Opens New Dallas Building In Expansion Move

DALLAS, Tex. — Westinghouse Electric Supply Co. of Dallas recently moved into its new modern building at 401-11 Griffin St. The new building, over twice as large as the one just vacated, was designed especially for modern electric wholesale operation. R. G. Berle is district manager.

Enclosed shipping docks accommodate three transport trucks at a time, while a receiving dock with railroad siding and truck facilities aids in the handling of incoming materials.

Fast elevators speed up shipping operations on regular orders for standard packaged material, while for rush orders a complete "store within a store" is maintained at the city counter. In this store broken packages of wiring supplies, lamps, radio tubes, and small appliances are kept. Approximately 2,000 items are stocked within this department.

A merchandise display room, with over 2,200 sq. ft. of floor space, is devoted to the display of electrical household appliances and commercial refrigeration equipment. A complete electric kitchen, with all the equipment connected and ready for demonstration, is used as a sales aid for electrical merchandise.

A full section in the Dallas Dispatch-Journal was devoted to the opening of the new headquarters. Besides a full pictorial coverage of the new building, the newspaper featured articles on the advantages of electrical living and carried tie-in advertisements of local Westinghouse dealers.

Moving of the district offices in Dallas to the new building climaxes a recent expansion program of Wesco in the Southwest. Mr. Berle says, in which larger and better locations also were obtained for the Fort Worth and San Antonio branches of the concern.

Hasler-Tel Co. Moves To Larger Quarters

NEW YORK CITY—Hasler-Tel Co., sole distributor and service headquarters for the Swiss-made Hasler speed indicator for measuring motor revolutions, plans to move July 1 from 461 Eighth Ave. (its address for the past 15 years) to the Underwood building, 30 Vesey St.

Necessity of expansion due to increased business was given as the reason for the move.

Movies Score Again In Appliance Promotion

DETROIT — With production of seven films featuring the new model Kelvinator refrigerator, Nash-Kelvinator Corp. is joining three other major manufacturers of mechanical refrigerators—Frigidaire, Hotpoint, and Electrolux—in promoting its products through the medium of theater screen advertising.

The Kelvinator organization has approved this medium for dealer use on the company's regular cooperative cost-sharing basis.

Alexander Film Co. of Colorado Springs, Colo. was given the production assignment, and dealers will be able to use not only Alexander's 8,000 contracted theater screens, but those of other film advertising companies as well.

Pleasantaire Appoints 3 New Distributors

WASHINGTON, D. C.—Appointment of Warren Norge Co., New York City; Sampson Electric Co., Chicago; and Eastern Stokol, Pittsburgh, as distributors for Pleasantaire room coolers has been announced by officials of the Pleasantaire corporation.

Warren Norge will cover metropolitan New York City and a portion of New York state and Connecticut; Sampson will cover Chicago and northern Illinois; and Eastern Stokol will handle Pittsburgh, western Pennsylvania, and part of West Virginia.

Tyner Wins Top Award In Kelvinator's 'Dealer-Getting' Contest

DETROIT — William Tyner of Richards & Conover Hardware Co. of Oklahoma City was the winner of the grand award in Kelvinator's "Silver Jubilee Dealer-Getting Contest," which was started in February and concluded recently. In all, 148 cash prizes are going to wholesale men in all parts of the country who qualified in the contest.

Winners of the second and third national prizes were Wilbur Hawkins of Eastern Co., Cambridge, Mass., who gave top-man Tyner tough competition all the way, and Joe Pleasantaire of Carolina Sales Co., Greenville, N. C.

Regional prize winners were:

Eastern Region—Wilbur Hawkins, Eastern Co., Cambridge, Mass., first; W. R. Zacharias, Raymond Rosen Co., Philadelphia, second; Robert P. Hussey, Bohman-Warne, Hagerstown, Md., third.

East Central Region—F. T. Campbell, Earle Rogers Co., Wheeling, W. Va., first; W. F. Fenske, Nash-Kelvinator Corp., Detroit, second; F. A. Haerle, Graybar Electric Co., Cleveland, third.

North Central Region—William N. Tyner, Richards & Conover Hardware Co., Oklahoma City, first; R. H. Kelley, Tri-State Electric, Sioux Falls, S. D., second; O. L. Easterbrook, Marquette Equipment Co., Peoria Ill., third.

Southeastern Region—Joe L. Pleasantaire, Carolina Sales Corp., Greenville, N. C., first; Raymond Ade, Graybar Electric Co., Jacksonville, Fla., second; James West Durst, Moore & Stewart, Gastonia, N. C., third.

Dallas Region—Roy Cutsinger, 555, Inc., Little Rock, Ark., first; Sam Fuchich, C. T. Patterson, New Orleans, second; A. M. Westmoreland, 555, Inc., third.

Western Region—C. L. Ferguson, Delvin-Drew Co., Fresno, Calif., first; O. L. Haack, Tull & Gibbs, Inc., Spokane, Wash., second; E. W. Jenkins, Walker Electric Co., Boise, Ida., third.

Lyle and Crenshaw Leave Utility For Dealership

MEMPHIS, Tenn.—Russell Lyle and P. F. Crenshaw, both former sales executives of Memphis Power & Light Co., have opened a Norge appliance dealership under the name of Lyle-Crenshaw, Inc. right next door to the utility building in which they used to work.

The utility will furnish no competition, however, for it is soon to be taken over by the city of Memphis, which has arranged to purchase TVA power—and the city will sell no home appliances.

Bulk of the new store's sales personnel is composed of former topnotch employees of the utility.

The salesroom itself is designed to form an attractive setting for the appliances displayed. Two runners of burgundy-colored carpet run full length of the polished oak floor. Lower half of the walls are light blue; upper walls and ceiling are finished in off-white. The light blue and white on the walls are separated by a dark blue band.

Prior to formation of Lyle-Crenshaw, Inc., Mr. Lyle spent 10 years as manager of the home service department of Memphis Power & Light; Mr. Crenshaw had been manager of the utility's commercial and lighting division.

Appointed Representatives

WAUSAU, Wis.—L. & T. Engineering Corp., Kansas City, Mo., and Ray Heat & Power Co., Chicago, have been appointed representatives in their territories for D. J. Murray Mfg. Co.'s cooling and heating units.

To a young serviceman —who wants to get ahead



There is, of course, no substitute for experience.

Over a period of time, the work you are now doing will accumulate into a mass of experiences that will enable you to do an expert, all-around job.

Eventually, no doubt, you will be able to meet and solve all of the intricate problems of installing and servicing refrigeration and air-conditioning equipment of all kinds.

But through experience alone, it may take you several years to acquire this expert ability.

This period of time can be shortened.

There is a quicker route that you can take. To your own experience you can add the experience of others. You can benefit from what others have already learned from their experience—and this is now available to you for your own daily use.

The various volumes of The Refrigeration Library contain a world of valuable information and practical tips that you can use in your daily work—NOW!

In these various volumes you will find the boiled-down experience of other practical servicemen who have spent many years in this profession. Let them be of help to you.

Even if you can devote only 10 or 15 minutes a day in profiting from the experience of others, you will quickly acquire a wealth of practical knowledge that will soon become apparent in the daily jobs that you are now doing.

Start now to accumulate your own Refrigeration Library. You can make a start, of course, by buying only one book.

THE REFRIGERATION LIBRARY

The Refrigeration Library consists of a series of manuals, page size approximately 6 by 9 inches, and the number of pages in each manual ranges from 96 pages up to 144. They are bound in a tough, durable cover. The price of each book is \$1.00.

The Master Service Manuals are divided into two groupings, four manuals dealing with the subject of household refrigeration and three manuals on commercial refrigeration.

The Air Conditioning Series consists of seven manuals explaining the various types and systems of air-conditioning equipment. Manual No. B-1 explains how to select and install air-conditioning systems.

These manuals are profusely illustrated. They are easy to read and easy to understand. A few minutes spent with The Refrigeration Library each day will be extremely valuable in helping you master service and installation problems. The Refrigeration Library is inexpensive and is easy to accumulate by purchasing one or two books at a time.

Write for complete catalog

Start with this book



To start your Refrigeration Library, we recommend you order Manual No. 1, containing the theory and principles of refrigeration explained in simple terms. In this you will find the characteristics of various refrigerants in common use, also an explanation of the construction and operation of the major component parts of a household refrigerator. 144 pages, price \$1.00.

First In National Heater Contest —Cites Dealer Cooperation as Aid

FORT WAYNE, Ind.—An intelligent program of dealer cooperation, in which the utility aided dealers in its territory at every step, yet attempted to avoid any implication of trying to run their business for them, helped earn for Indiana Service Corp. the top award in the national electric water heater contest for utility companies conducted last year by the National Electric Water Heating Council of the Modern Kitchen Bureau.

The award (a bronze plaque and a \$1,000 check) was based on a point system under which 20% was allowed for each of the following: saturation increase, percentage of sales increase over previous year, unit volume, excellence of plan, dealer cooperative activities.

Announcement of the award winner was made at the seventh annual convention of Edison Electric Institute. A. E. Julian, chairman of Nema's electric water heating section, presented the plaque and check to W. Marshall Dale and Roy Bridges, president and sales promotion director, respectively, of the Indiana utility.

'NO MERCHANDISING'

Indiana Service Corp. adopted its "no merchandising" policy in 1936, despite the fact that it faced the competition of a municipal lighting company and a private utility selling natural gas, on the provision that dealers push appliances aggressively.

As a result, the Fort Wayne Electrical Appliance Dealers Association was formed, with "Make Fort Wayne Electrically Minded" as its slogan. Its membership today, at the end of two and a half years, includes 32 active cooperating dealers and seven distributors.

Rather than set itself up as a monitor to guide the dealers' actions, the utility instead established itself as a clearing house for ideas, information, and problems relating to appliance merchandising.

The power company also assists in

the training of dealer sales personnel and offers cooperative advertising in the form of newspaper space, bill enclosures, street car signs, and local radio programs and spot announcements.

The utility's attractive modern showroom is made available to dealers on a rotation basis. The company keeps trained salesmen on the floor, but only to promote the advantages of electric water heaters or other appliances, not to suggest any particular make. The customer must make his own product selection.

If a person shows an inclination to buy, but indicates no dealer preference, a prospect card is filled out and turned over to one of the dealers (also on a rotation basis). The utility maintains a strict follow-up on all such prospects, and if no sale is reported within 30 days, the prospect is turned over to the next dealer on the list.

INSTALLATIONS PAID

Indiana Service Corp. pays for installations up to a maximum of \$15 in the case of a single family dwelling. Plumbing and wiring contractors are hired on a rotating basis, if the customer does not wish to select his own. All such wiring and plumbing installations become the property of the utility. After installation, a company representative checks the installation and turns on the current.

The company maintained a free service policy until 1937, when the dealers asked to take over this work so that they might benefit by the customer contacts which it entailed. The utility still maintains an emergency service, however.

Low electric rates, plus the effect of hand-in-hand cooperation upon the part of dealers and utility, produced an increase of 24.6% in the number of water heaters added to the service corporation's lines during 1938, as compared to the previous year.

This year's water heater business is running 26% of that in 1938.

BUSINESS NEWS PUBLISHING COMPANY

Publishers of Air Conditioning & Refrigeration News

5229 Cass Ave., Detroit, Mich.

Sell PACKAGED AIR CONDITIONING



DEALERS: Get the facts about the GR-Lipman line of complete, "packaged" Air Conditioning Equipment . . . portable, self-contained units for year-round air filtration and ventilation; summer cooling and dehumidification. An unlimited market; an outstanding line. Write:

GENERAL REFRIGERATION CORPORATION
Dept. AC-2 Beloit, Wis., U. S. A.

Commercial Service

How Brunswick 1938-1939 Dry Expansion Soda Fountains Are Refrigerated

Number of Circuits Is Reduced To 3 In Later Models; Provision Made For Salad Unit

By Arch Black and Dean C. Seitz

Brunswick 1938-1939 Dry Expansion Refrigerated Soda Fountain

Fig. 4 illustrates the method used for wrapping the refrigerant coil throughout the fountain in the various sections. Seamless drawn copper tubing is soldered to the lining of the brick, bulk and dry storage compartment. The tubing starts at the extreme top of the lining and in this manner refrigeration is supplied above the level of the ice cream can.

In the syrup jar enclosure copper tubing is soldered to the back of the front lining as is illustrated in Fig. 4. In all cases the tubing is buried in the insulation and embedded in asphalt.

In the earlier models it can be noted from the illustrations shown in the June 7 issue that the dry storage compartment was between the bulk and brick compartment. In the later models the brick and bulk compartments are built side by side. The brick compartment is on the left-hand end of the creamer, completely separated from the bulk compartment with a 4-inch insulated wall. The dry storage compartment is at the right-hand end of the cream (see Fig. 4).

1938-1939 Refrigeration Circuit

In the earlier models as already described there were five different refrigerant circuits each having its individual control. In the later models certain controls were eliminated and instead of five different individual circuits there are now only three and the total number of valves used consists of one thermostatic expansion valve, for both the bulk and brick ice cream, one thermostatic expansion valve for both syrup rail and dry storage, one pressure regulating valve for syrup rail, dry storage, and instantaneous cooler.

These valves are located (as shown in Fig. 5) in the rear of the dry storage compartment and in the syrup rail.

The respective circuits are connected together in the upper back of the dry storage compartment to a common suction and liquid line. On the exterior of the dry storage end of the fountain is located a 5/8-inch suction service valve and a 3/8-inch liquid service valve to which can be connected the main liquid and suction line running to the condensing unit.

Fig. 5 is a schematic diagram of the refrigerant circuit in the Brunswick 1939 models.

Baffled By a Boiler?

Why not cash in on the profitable business of installing and servicing soda fountains? By reading and studying this series of articles being published in the weekly issues of *Air Conditioning & Refrigeration News* a service man can equip himself to enter this lucrative field and add to his income.

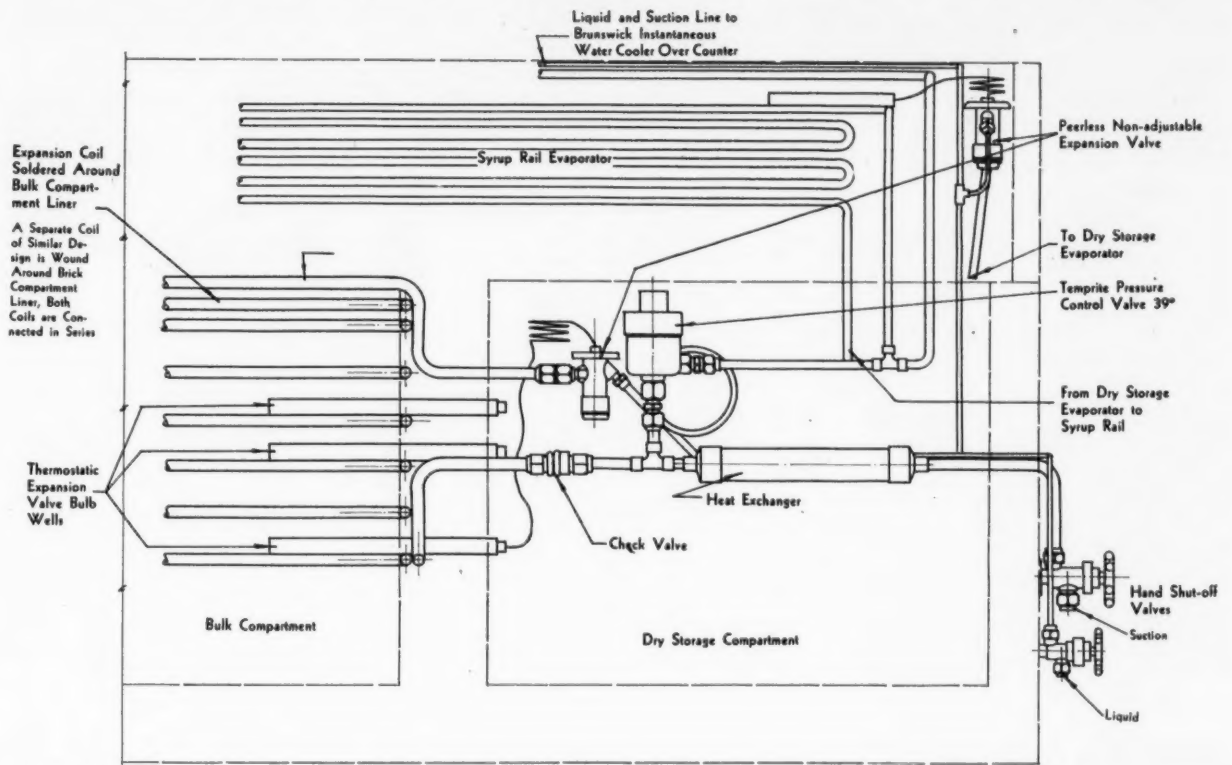
If you're troubled by boilers, take a look at the articles in the following issues of the News: Nov. 9, Nov. 23, Nov. 30, Dec. 7, Dec. 14, Dec. 21, Dec. 28, and Jan. 4.

Brick and Bulk

Refrigerant Circuit

Coils which are soldered to the outside of the brick tank start at the extreme top and are wound around and around. From the bottom of the brick tank, the tubing, without a break, passes through the insulation between the brick and bulk compartments and is again brought up to the top of the bulk ice cream tank. The coil is then wound to the proper depth around this tank and continues back to the suction shut-off valve on

Fig. 5—Schematic Diagram of Refrigerant Circuit



This diagram shows the refrigerant circuits of the 1938-1939 Brunswick fountain. Location of the various automatic and hand-operated valves and tubing details may be noted.

the exterior of the dry storage compartment.

Located in the dry storage compartment is a heat interchanger and the liquid refrigerant goes from it to a 1/4-inch copper tubing to the thermostatic expansion valve which is located in the upper left-hand corner of the dry storage compartment and from here into a 5/8-inch copper tubing across the top at the back of the bulk storage liner.

The expansion coil then continues to the top of the bulk storage compartment liner, spiraling down it and from here to a check valve located in the dry storage compartment, to the heat interchanger and out to the suction service valve.

Dry Storage Compartment and Syrup Rail

From the heat interchanger located as mentioned above, liquid refrigerant goes through a 1/4-inch copper tubing to the thermostatic expansion valve located in the extreme end top corner of the syrup rail above the dry storage compartment (as is shown on Fig. 5).

The refrigerant then expands down through the 3/8-inch copper tube in the back of the dry storage liner across the bottom of the liner and up to the top of the front of the dry storage liner, then down the front of the dry storage liner and into the bottom of the syrup rail expansion coil from which it goes back into the dry storage compartment through the pressure regulating valve, which is located in the dry storage compartment as is shown in Fig. 5, advances through the heat interchanger to the suction service valve.

Carbonated and Sweet Water Circuit

Liquid refrigerant from the heat interchanger is passed through 1/4-

inch copper tubing into the syrup rail and along the syrup rail up the front of the Brunswick instantaneous cooler to the liquid service valve. The suction line from the Brunswick cooler, model MZ-3, for methyl chloride and model FZ-3 for "Freon," follows the same path back to the dry storage compartment where it is tied into a common line from the syrup rail expansion coil before entering the pressure regulating valve, which can be traced from Fig. 5.

This pressure regulating valve is the same one as has been mentioned for the dry storage and syrup rail circuit.

Salad Unit

In some installations, a mechanically refrigerated salad unit may be installed adjacent to the fountain. This unit is a small counter type refrigerator with a sweet water bath, salad pans in the top, and a refrigerated storage space for foods and salad materials located in the lower part of the unit.

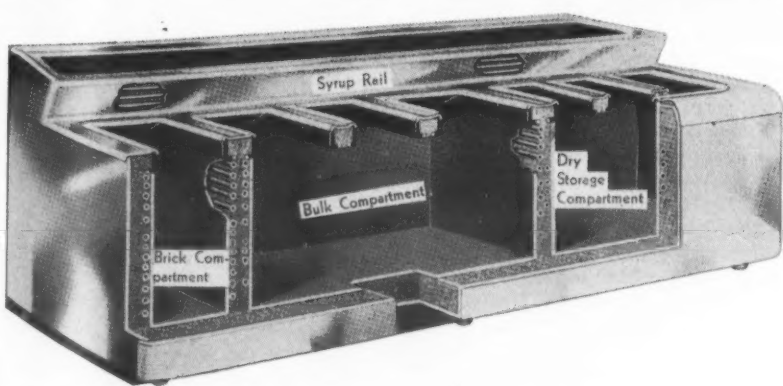
The refrigerated section has a fin coil installed in the dry storage section and an exposed copper tube coil is soldered to the bottom of the salad unit. The coils are connected in series, and refrigerant control is accomplished by the use of a thermostatic expansion valve with the temperatures governed by the use of an M-750 (for methyl chloride) or F-750 (for "Freon") pressure regulating valve.

This regulating valve is mounted outside of the unit and hand shut-off valves are provided for both the liquid and suction lines.

Feresse Placed in Charge

SCRANTON, Pa.—Pete Feresse, of Fairmont Creamery Co.'s Scranton branch, has been placed in complete charge of that company's refrigeration service.

Fig. 4—Cut-away View of Fountain



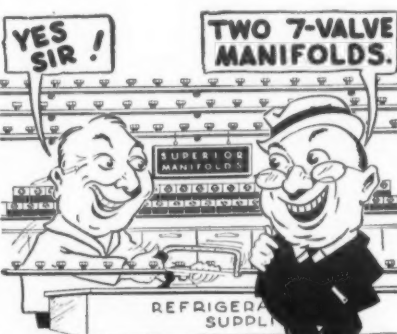
Illustrated above is the method used for wrapping the refrigerant coil around the various sections of the Brunswick 1938-1939 dry expansion soda fountains.

DEALERS-DISTRIBUTORS

Large well-rated manufacturer, with national organization, will appoint several distributors and dealers to complete merchandising setup. Complete line of bituminous and anthracite automatic burners, nationally advertised, competitively priced, backed by extensive promotion. Write us for information and sales analysis of your territory.

LINK-BELT COMPANY, Stoker Division
2410 W. 18th St., Chicago, Ill.

7805



Yes Sir, is Right!

42 Manifold combinations—2, 3, 4, 5, 6 or more valves; size 1/4", 3/8", 1/2" and 3/4"; either flare or sweat—may be readily cut from SUPERIOR 30 MT MANIFOLD TUBES (Pat. applied for).

Go to a SUPERIOR jobber for your manifold requirements and get what you want—from stock.

Sold by leading jobbers everywhere. Write for Bulletin R3

SUPERIOR VALVE & FITTINGS CO.

500—37th St., Pittsburgh, Pa.
Export: 100 Varick St., New York, N. Y.



New Profits for You with
Unit Air Conditioners

The ultimate in air conditioning for your restaurant, office, or shop. Built for heavy duty; large slow-speed refrigerating plant with water-cooled motor gives greatest capacity, longest life. Portable, tho offering merits of a central system when ducts are used. Backed by 57 years experience, Frick Unit Air Conditioners have proved themselves practical and economical—most profitable for you to own! Write for details.

FRICK COMPANY, Waynesboro, Pa.

CAN
THERE BE ANY
Argument
WITH MRS.
REFRIGERATOR OWNER?

You won't get to first base arguing with that woman. She says the refrigerator broke down. Can you explain to her that a little moisture clogged the valves, a failure which can occur in any make, because even the most careful baking and assembly leaves a little moisture trapped in the intricate passages of the unit? You say the machine is mechanically perfect, but SHE tells her friends it broke down!

That is a needless loss of good will.

A cartridge of Activated Alumina, built permanently into the unit, will trap and hold moisture, and prevent trouble. The dependability of Activated Alumina is proved by results on makes which use permanently installed cartridges. Why not have such cartridges on your units, to save good will and stop service expense? ALUMINUM ORE COMPANY. (Sales Agent: ALUMINUM COMPANY OF AMERICA, 1908 Gulf Building, Pittsburgh, Pennsylvania.)

ALORCO
ACTIVATED ALUMINA
PREVENTS CLOGGED REFRIGERATOR VALVES

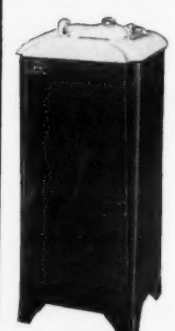
Springfield, Mass. R.S.E.S.

Elects New Officers

SPRINGFIELD, Mass.—Charles A. Adams was elected president of the local chapter of Refrigeration Service Engineers Society for the 1939-40 term at a recent meeting in the Metropolitan hotel.

Other officers elected were: Harold Kane, first vice president; Fred LaFleur, second vice president; Howard Lambert, secretary; Walter Quimby, treasurer. C. P. Payson was named chairman of education, and George F. Allen was made sergeant-at-arms. Howard Oumette, Arthur Hebert, and Robert Blanchard are directors of the chapter.

THE BUYER'S GUIDE



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ELECTRIC WATER COOLERS

Thoroughly reinforced all steel attractively finished cabinets.
Complete line of different Models and Capacities.
Write for details and sales prices.

Puro Filter Corporation of America
440 Lafayette Street, New York City Spring 7-1800

53 YEARS OF SERVICE 1886 1939

PERCIVAL Line
meets EVERY NEED!

Includes Coolers, Reach-In Refrigerators, Top Type, Double Duty, Delicatessen, Dairy and Produce Display Cases and Percival Condensing Units.

Quality built; corkboard insulated; porcelain clad; beautifully streamlined. Ceiling system is second to none.

Write for attractive prices, literature and Distributor's proposition.

C.L. PERCIVAL CO.
DES MOINES, IOWA

THE PROFIT LINE FOR '39

Refrigerator and Compressor sales go together. SHERER offers a complete line of cases, coolers and boxes to be sold with your compressors.

Write for catalog and franchise details, mentioning territory desired.

SHERER-GILLETT CO., Marshall, Mich.
Manufacturers of Refrigerated Display and Storage Equipment

ATTENTION
REFRIGERATION AND APPLIANCE DEALERS

A-BLIZZARD-FROM-THE-WEST-That has everything

NO IT

More Wet Bottles
More Loose Labels
More Wet Hands
More Dissatisfied Customers

Is More Sanitary
Has Fast Dry Cooling
Has More Capacity
Has Balanced Refrigeration

Territories Now Open * Write for Particulars

WEBER SHOWCASE & FIXTURE CO., INC.
5700 Avalon Boulevard • Los Angeles, California
Cable "Weberco" Established 1902

Refrigeration Products

✓ Check These Money-Makers Into Your Stock Now!

The Patented LARKIN COIL
HUMI-TEMP Units DISSEMINATOR Pans
Instantaneous WATER COOLERS

Today—See Your Jobber or Write Direct to

LARKIN COILS, Inc. General Offices and Factory
519 Fair Street, S. E., ATLANTA, GA.
Branch Factory, 57-59 Eleventh St., New York City

You Asked for it—RANCO Built It!

RJS-830 is the general replacement of wide adaptability. It is extremely easy to install - either vertically or horizontally. Single dial - fits practically all household refrigerators.

Mounting brackets of RJS-830 have wide adjustment to fit all control mounting spacings. The dial pointer may be rotated on its shaft to line up with printed evaporator shields. A long dial pointer shaft permits clearance for the pointer regardless of the thickness of the shield and dial plate.

Ranco quality! Ranco dependability!
At the right price. Ask your Ranco jobber.

Ranco INC.,
Columbus, Ohio, USA

Installation Methods

Installer Must Know Correct Methods
And Exercise Care To Make Good
Silver Soldered Joints In the Field

Editor's Note: This is the second instalment of an article taken from a 1939 bulletin of the General Electric air-conditioning department covering "Installation Instructions for Piping for Condensing Units." Extracts from this bulletin were read before the conference on piping which was held during the Spring meeting of the American Society of Refrigerating Engineers. A third instalment will appear in a future issue.

Silver Soldered Joints
In the Field

Silver solder connections should not be attempted on the standard liquid outlet valves of the type CM-93 and CM-103 condensing units nor on standard suction and liquid line strainers, not equipped with removable solder flanges. If liquid outlet valves for the above-mentioned condensing units, or strainers are required for silver solder connections, they should be ordered special.

Special strainers will be supplied having ends sufficiently long to permit silver soldering or with removable solder flanges. Special liquid outlet valves will be furnished on the type CM-93 and CM-103 units with extended liquid line connections so silver soldering temperature will not reach the valve body.

Method of Making Silver
Soldered Joints

Silver soldering requires the application of considerably more heat than is needed for soft soldering and this heat must be carefully controlled. This necessitates the use of equipment capable of producing a flame which will heat the part up to the melting point of silver solder (approximately 1,425° F.) in a relatively short time.

However, the heat must not be so intense that the parts being soldered are burned sufficiently to form a scale.

EQUIPMENT NEEDED

The recommended equipment for this purpose is an oxyacetylene torch or an oxyhydrogen torch. Such equipment, including welding tips, may be purchased from any reliable dealer such as the Air Reduction Sales Co. of New York or the Linde Air Products Co. of New York. The size of tip to be used on the torch depends on the size of the parts being soldered.

The making of satisfactory silver soldered joints is entirely a matter of practice, providing the correct equipment is used.

NOVICES SHOULD PRACTICE

If the operator has not had experience in silver soldering copper tubing it will be necessary for him to obtain sample fittings and tubing and practice making joints before work is attempted on refrigerating machines.

The following instructions apply

to joints in copper tubing or between copper tubing and brass fittings. Joints may also be made between copper and steel tubing. Do not attempt to silver solder stainless steel.

WHAT IS A GOOD JOINT

a. Surfaces to be joined by silver solder must have a tight and uniform fit. Silver solder itself does not provide much mechanical strength; this must be obtained in the union of the adjacent copper or brass surfaces which results from the action of the silver solder.

The parts to be joined by silver solder should fit tightly. Clearance should not be over .006 inch. Ends of tubing should be cut off square.

b. Joints must be of sufficient depth to provide mechanical strength and insure against leaks. Joints in tubing up to and including 1/16-inch diameter should have a depth of joint equal to the outside diameter of the tube.

DEPTH OF JOINT

Tubes of greater diameter should have a depth of joint of 1/2 inch. Tubes must be sized so they will be in contact for the complete depth. Where tubing is soldered to a fitting the depth of joint will be determined by the fitting. The tube must be tight against the fitting for the complete depth. See that the end of the tube makes contact with the shoulder in the fitting.

c. Tubing must be perfectly round and of the correct size to make close fit with the fitting or tube to which it is to be soldered. If the outside diameter of the inside tube is too small, cut the tube back a short distance or extrude the tube slightly.

EXTRUDING TUBES

A tube may be extruded a slight amount by clamping it in a flaring tool clamp and driving in a pin which is slightly larger in diameter than the inside of the tube.

If it is necessary to extrude a tube sufficiently to make a joint with another tube of the same size (i.e., extrude the tube until the I.D. of the extruded portion is approximately .006 inch larger than the O.D. of the tube before extruding) special tools will be required. The tube must be clamped in a fixture that will hold it firmly below the portion to be extruded. The fixture should be counterbored at the top to the outside diameter of the extruded portion of the tube.

A straight pin with a rounded end should be used to force the tube walls out against the counterbored part of the fixture. Such a fixture may be used in an arbor press or in a drill press.

WALLS PARALLEL

Care should be exercised to get the side walls of the extruded portion of the tube parallel and straight. In all cases tubes must be sized back far enough to provide the depth of joint referred to in "b."

d. Tubes and fittings must be clean of all dirt or grease where silver solder is to be applied. Use steel wool to clean the surface.

Parts to be silver soldered should be held in a clamp or secured in some manner so there will be no movement between parts when making the joint. See that the parts fit together tightly.

If the fit is not perfect, the outer

tube may be formed around the inner to some extent, by grasping the outer tube with a pair of smooth-nosed pliers (duckbill) and rotating the pliers around the tube.

Hold the pliers firmly enough to force the outer tube in against the inner but not tight enough to bend or dent the tubing. Rotating the pliers forces the tubing together uniformly around the entire circumference. This may also be accomplished by using the flaring tool clamp.

APPLYING FLUX

Heat the parts to be soldered. First apply the heat uniformly until both parts are hot enough to melt the solder flux. Flux may be applied by heating (not melting) the end of a stick of silver solder and thrusting it into the can of flux, a quantity of which will adhere to the solder.

Apply sufficient flux to the joint to cover the adjacent surfaces, but not so much that it will run down into the tubing. See that flux melts into the joint all the way around.

CONCENTRATE HEAT

As soon as the flux has been melted, concentrate the heat on one side of the tubing and apply the silver solder. See that the temperature is high enough to melt the solder by touching the solder to the tube near the flame. When the solder will melt apply it to the joint near the flame but not under the flame.

Move the flame around the tube and follow it with the solder until solder has been applied to the entire joint. Use only enough solder to make a tight joint. Excess solder will run down inside the tubes.

DON'T USE TOO MUCH

Apply only enough heat to melt the solder and cause it to flow readily. Too much heat will burn (Concluded on Page 17, Column 1)

It's Easier to Sell

DOLECO Vacuum COLD PLATES
For Refrigerated Trucks
MORE PROFITABLE TO THE OWNER!

These Hold-over Truck Plates provide the most refrigeration per dollar invested, permit long hauls at even temperatures, preserving original quality at point of delivery.

Investigate their superiority. Write us today.

DOLE REFRIGERATING CO.
5922 N. Pulaski Rd. Chicago, Ill.

GRILLMETER
"THE YARDSTICK OF THE AIR"
A Direct Reading Air Velocity Meter
We Also Make Filter Gauges and Draft Gauges
DETROIT AIR METER CO.
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Dayton
V-BELTS

Silent, vibrationless, dependable, long-lasting. Powerful grip prevents slippage. A nearby distributor carries a complete stock for appliances and machines.

THE DAYTON RUBBER MFG. CO., DAYTON, OHIO
World's Largest Manufacturer of V-Belts

Tests Prove it's Completely Waterproof.
The New SI Small Capacity
MAGNET VALVE
Alco Valve Co., St. Louis, Mo.

KERO TEST
Valves and Fittings
The Standard of the Industry
Kerotest Manufacturing Co.
Pittsburgh, Pa.

There Are Tricks To Running Refrigerant Lines Correctly

(Concluded from Page 16, Column 5)
the flux and spoil the joint, or will burn the tubing.

Apply most of the heat to the heavier part and note that the joint is made by heat conducted through the copper or brass, not by heat applied directly by the flame.

Note that extreme care must be taken to remove all soldering flux after the joint is completed. Pinholes in the joint will fill with flux which will temporarily close the opening but this will soon give way and will result in a leak.

Clean the joints either by careful washing or swabbing with water while the joints are still hot or by wire brushing, scraping, or cleaning with emery cloth.

All silver soldered joints must be carefully tested for leaks. Test with refrigerant, under positive pressure after the part has been assembled to the refrigerating machine or system.

DISTANCE BETWEEN JOINTS

The minimum distance from base to base of adjacent silver soldered joint should be $\frac{1}{2}$ inch or over.

The minimum distance of a silver soldered joint from a soft soldered joint should be $1\frac{1}{2}$ inches or over.

When making a silver soldered joint near an enameled or painted surface or near wood or insulation, protect the surfaces with sheet asbestos when heat is being applied.

When silver soldering joints near valves, the valve must be protected from injury from the heat. Either remove the internal parts of the valve or protect the valve assembly with a wet rag.

Caution: When it is necessary to silver solder a joint that has been soft soldered it will be necessary to remove all traces of the soft solder, as the tin in soft solder amalgamates with copper at the temperature necessary for silver soldering and this will cause a thin or porous joint.

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FRENCH SMALL TUBE BRANCH
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Threaded Refrigerant Pipe Connections

Sealing of permanent threaded connections in refrigerant systems should be accomplished with litharge and glycerine cement. Since the quality of the litharge and glycerine is an important factor in making a satisfactory seal, a one-pound can of litharge and the requisite amount of glycerine has been made available to the field. Instructions covering its use are attached to each can. If these instructions are followed a satisfactory seal will result.

Sealing of temporary threaded connections such as gauge port openings in service valves should be accomplished with a compound which does not harden or freeze the joint. The most satisfactory material available is a glyptal cement.

In order to obtain a tight pipe thread joint the sealing compound should be applied to the male pipe threads in such a manner as to prevent the material from being squeezed or pushed into the refrigerant system.

Cleaning Hard Copper Pipe

Hard-drawn copper pipe is cleaned and capped, but not dehydrated at the factory. Because of the method of installation, it is necessary to clean the pipe after the fittings have been sweated on.

If the line is not too long, it should be cleaned as a unit. Otherwise it must be cleaned in sections from one tee or opening to another. If precautions are taken to keep dirt and flings out of the pipe during its installation, the cleaning process will be much easier.

CLEANING PROCEDURE

The following procedure for cleaning hard-drawn pipe should be followed:

1. Draw a dry cloth through the pipe by means of an electrician's steel tape.
2. Saturate a clean cloth with anhydrous methyl alcohol, acetone, or carbon tetrachloride and pull it through the pipe by means of the steel tape. (Either anhydrous methyl alcohol or carbon tetrachloride may be obtained from a drug house.)
3. Saturate another cloth with compressor oil and draw this through the pipe. Be sure to use the same kind of compressor oil as that in the condensing unit.
4. Complete the cleaning process by pulling a new clean dry cloth through the pipe.

Running Refrigerant Lines The Correct Way

Sizes of refrigerant lines should be determined by the permissible pressure drop. When installing refrigerant lines, observe the following rules:

1. Do not make joints in walls or other inaccessible places in such a manner that it is impossible to test for refrigerant leaks after the installation has been completed.
2. Support tubing so as to prevent vibration at joints and connections.
3. Install tubing so that expansion and contraction due to temperature changes will put as little strain on joints and fittings as possible.
4. Wherever tubing is exposed to possible damage, or when required by code, protect it with either flexible or rigid metal conduit. All refrigerant lines which are run outdoors should be enclosed in conduit. Flatten the end of the tubing with a hammer before pushing it through the conduit.

REMOVE ROUGH EDGES

Remove any burrs or rough edges on the ends of the conduit, and attach bushings to prevent any possible deep scratches which would weaken the tubing. Wrap a layer of rubber tape around the tubing at intervals to cushion it in the conduit.

5. Use proper bending tools for bending soft tubing. Avoid sharp bends which flatten the tubing.

6. Avoid running lines next to hot water or steam pipes or along heated spaces.

FASTEN LINES TOGETHER

7. When convenient fasten the liquid and suction lines together at

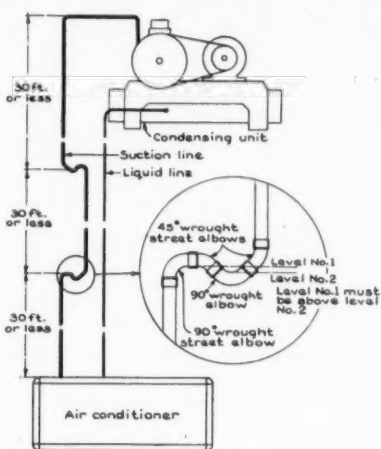
close intervals, either with a wrapping of tape or preferably with solder. This prevents rattling and presents a neat appearance. It will also result in some exchange of heat between liquid and suction lines.

8. In order to avoid transmission of noise through the refrigerant lines, it is sometimes advisable to anchor the tubing in a concrete block near the condensing unit.

The block should be cast around the lines. It should weigh approximately 25 to 40 lbs., depending on the size of the lines, and should be rigidly supported on a pedestal or wall bracket. The connections to the condensing unit should be flexible.

9. If the condensing unit is located more than 30 feet above the air conditioner, Fig. 1, an "S" shaped trap should be provided in the suc-

Fig. 1—Suction Line Trap



tion line for each 30 feet of elevation to insure proper return of oil to the condensing unit.

10. Do not connect two condensing units in parallel unless absolutely necessary.

ISOLATING ONE UNIT

11. When two or more room coolers or room air conditioners are connected to a single condensing unit, it may be necessary to be able to isolate a single conditioner for servicing without disturbing the operation of the others.

In this case, valve should be installed in both the liquid and suction lines of each room cooler or air conditioner.

Manifolds with valves may be used. For the liquid lines, separate valve installed close to each conditioner is preferable.

CLOSE UP VALVES

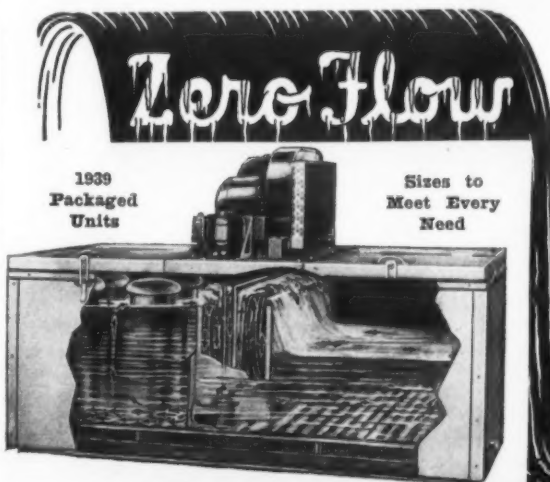
The closer the liquid line valve is to the expansion valve, the less refrigerant is liable to remain in the line between the hand valve and the expansion valve when the evaporator is pumped down rapidly for servicing.

If the installation is such that it would be permissible to pump down the entire system in order to service a single conditioner, valves for isolating each conditioner need not be installed, unless required by local codes, since they are a possible source of refrigerant leaks.

(To Be Continued)

Anti-Vibration Products Handled By Dravo

PITTSBURGH — Anti-vibration products of Korfund Co., Inc., Long Island City, N. Y., are now being handled exclusively by Dravo Corp. (Pittsburgh) in the territory comprised of western Pennsylvania, West Virginia, and the "steel district" of Ohio.



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1/2" S.A.E. Flare	13.00	16.25
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No. 513-C Refill cartridge filled with drier—\$4.75.
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Staff Reporter In Britain

By Alfred Jones

DARTFORD, Kent, England—Up-to-the-minute air raid shelters and an ancient house built by Henry VIII for Anne of Cleves (one of the famous six wives) afford a marked note of contrast in the grounds of J. & E. Hall, Ltd. here, one of the leading English commercial refrigeration manufacturers.

Established as an iron foundry in 1785, the firm has steadily grown and increased its productive capacity so that today it is not only an iron works, but a maker of all types and sizes of commercial refrigerating

machines, escalators, elevators (or "lifts" in this country), and valves, flanges, pipe fittings, pipework, and coils for gases and liquids under high or low pressures.

Latest addition to the Hall family of products is a self-contained ice cream freezer, of the type used in the United States for "frozen malted." These units are not yet on the market, but are now in the company's testing department.

An interesting anecdote in connection with the testing department concerns the airplane flight over Mt.

Everest in the Himalayas a few years ago made by a group of British airmen-scientists.

Mt. Everest, highest mountain in the world, rises to a height of more than 29,000 feet, and it's mighty cold in that atmosphere. So the fliers wanted to find out if they would be able to change plates in their cameras under the expected conditions without freezing their hands.

They went into the Hall cold room in the testing department, where the temperature is about 50° below zero F., and practiced changing photographic plates. They discovered that they could take off their electrically heated gloves, make the change, and get their hands back into the gloves just before they went numb.

Having gradually "grown up" over a period of about 150 years, the Hall factory is a collection of separate buildings scattered over a large area of ground.

AIR RAID SHELTERS

And in two of the open lawns amongst the buildings have been dug the air raid shelters. These protective cellars are required by the order of the A.R.P., a government agency as all-powerful in England today as the NRA once was in America.

The A.R.P. (Air Raid Precaution) is in evidence everywhere, and seems to be particularly anxious about factories. So Hall's has had enough shelters made to house all of its 2,000 factory workers in case of an air raid.

The English neither want nor expect war, but if there should be a succession of air raids, there won't be time then to dig shelters. In fact, there will be just time enough to scamper into them.

FOUR MINUTES WARNING

Dartford, being 15 or 20 miles southeast of the heart of London, is only about four minutes from the coast by air. Thus, our guide pointed out, there would be only four minutes warning to get all the employees into the shelters.

Dartford probably would be one of the first targets for the bombers, since it is as busy an industrial center as can be found in the country.

In addition to J. & E. Hall, Ltd., there is a large Vickers factory (Vickers being England's principal producer of munitions and other implements of war), there is a Burroughs & Wellcome chemical factory, there is a huge electrical power plant, and there are various other buildings that an invader would like to destroy.

Besides the air raid shelters, which are not bomb-proof but are splinter and gas-proof, Hall's is prepared with a special water-pipe system for fire fighting in all of the shops, and is rapidly completing a bomb-proof, gas-proof, splinter-proof, first-aid building.

But enough of war preparations and back to the business of refrigeration!

MARINE REFRIGERATION

J. & E. Hall, Ltd. is said to be the world's largest manufacturer of refrigerating systems for marine installation. The current edition of Lloyd's Register of Shipping shows that Hall's has equipped 63.3% of the world total of refrigerated cargo ships of at least 80,000 cu. ft. capacity.

The cumulative total refrigerated cargo capacity of these ships, the register reveals, is 116,476,063 cu. ft., and Hall's is credited with having installed refrigerating equipment for 73,849,852 cu. ft.

It was in the field of ship refrigeration that J. & E. Hall, Ltd. got its start as a refrigerating company. As far back as the middle of the 19th century the firm was engaged in equipping cargo ships with machines. In 1888, they introduced machines working on the "vapor compression" principle using carbon dioxide as the refrigerant.

Success with marine refrigeration led to their entry into refrigeration on land, and this market is now the firm's biggest business.

Bulk of Hall marine refrigerating systems, of course, are installed in regular commercial cargo vessels. These are the "big jobs." The company also installs smaller systems in the provision rooms of ocean liners and navy ships.

This small type of marine system was first brought out in 1928 as a definite type of refrigeration, and was called the Marine Hallmark Machine.

Honeymooner Visits J. & E. Hall, Ltd.

Staff Reporter Alfred Jones is now in England, his birthplace, where he will combine a honeymoon with a study of the refrigeration business in that nation. Al's bride, Rita (formerly of the News subscription department) was also born in England, and the two of them are now motoring through a countryside full of cousins, aunts, and in-laws.

In his first article Mr. Jones tells about J. & E. Hall, Ltd., one of Europe's biggest and most important manufacturers of marine and industrial refrigeration equipment.

At first, the units were installed mainly in the provision rooms of tramp steamers, and later the British Admiralty became interested to the extent of ordering units for a number of the smaller ships of the British Navy.

Later the larger battleships were equipped, and today the list of naval boats fitted with Hall refrigeration looks like a roster of the whole fleet.

The Admiralty requires that the units pass strict tests before being accepted, and all cabinets have to undergo trials in hot chambers maintained at a temperature of 110° F.

The air-cooled compressor must operate satisfactorily at this heat, and, with the machine stopped, the insulation must be able to prevent a rise of more than 6° F. per hour over a six-hour period inside the cabinet.

NAVAL SPECIALISTS

In addition to refrigerators, Hall's has supplied the navy with cold rooms, ice-making machinery, ice cream plants, water-cooling installations. This company also has supplied marine refrigerators to the Canadian, Brazilian, Argentine, Greek, Polish, and Turkish navies.

In passenger liners, Hall's has had a number of orders for automatic refrigerators and other refrigerating equipment. The "Queen Mary" is equipped with 23 Hallmark machines, and the new "Queen Elizabeth" will have more than this when she enters the service.

Other well-known ships with Hall systems are the new "Mauretania," the "Empress of Australia" which carried King George and Queen Elizabeth across the Atlantic, other "Empress" and "Duchess" liners of the Canadian Pacific line, the "Queen of Bermuda," the "Nieuw Amsterdam," and the Union Castle and Blue Star liners.

To service marine installations, Hall's maintains service depots at the principal ports throughout the world.

ABATTOIRS TO SKATING RINKS

For land use, they make refrigerating equipment for all kinds of applications from abattoirs to ice skating rinks.

Speaking of ice skating rinks, Hall's held patents on refrigerating machines for this type of application in the latter part of the 19th century.

Two Hall machines, of the carbonic anhydride system, were installed in the Glasgow Real Ice Skating Palace in Glasgow, Scotland in 1896. The machines were tandem compound horizontal condensing engines, each said to be capable of maintaining the ice surface in good condition.

In contrast to this early rink is an installation in the Kirkcaldy Ice Rink, Kirkcaldy, Scotland, one of three modern rinks made by Hall's in that country.

The surface is 195 feet long and 97 feet wide, providing sufficient space for six curling rinks, curling being the Scots' favorite old-time game. Feature of the rink is the jointless steel pipe floor, the brine pipes having been welded with Hall's special welding machines. Aggregate length of piping is about 10 miles.

Brine circulation is provided by duplicate pumps of the centrifugal type driven by 20-hp. motors. Duplicate ammonia compressors of the triple-cylinder vertical, enclosed single-acting, high-speed type, driven through multiple V-belts by induction motors, provide a total capacity of 120 tons of refrigeration.

Shell-and-tube type condensers are employed, and cooling water is circulated through them by duplicate centrifugal pumps driven by 5-hp. motors.

As an added refrigeration service, a cooling slab for curling stones is provided. These stones, when not in use, must be maintained at the proper temperature. Their cooling slab is a coil of steel piping em-

bedded in a block of concrete, brine from the main system being circulated through the coil.

Hall's also makes air-conditioning equipment for commercial uses, and has made installations in theaters, chocolate factories, bakeries, photographic supplies, factories, fur storages, breweries, offices. Refrigeration equipment for breweries is a department in itself.

Industrial relations are considered quite important and much is done to make the men's working conditions pleasant and enjoyable. There is a clean, bright dining hall where the men may have their lunch, and the firm maintains a playing field outside of the town where the employees may have cricket matches, soccer games, and other sports.

There is a Veterans' Club, composed of employees who have been with the company for 25 years or more, which meets from time to time for social enjoyment. Members

(Concluded on Page 19, Column 4)

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New Manuals Provide Instructions on Final Steps In Estimating of Loads & Selecting Conditioning Equipment

Just off the press and now available to the trade are Manuals Nos. A-6 and A-7 in the series of "Air Conditioning Made Easy" manuals written by F. O. Jordan and published by Business News Publishing Co., 5229 Cass Ave., Detroit, Mich.

These two manuals comprise the "Air Conditioning Field Engineering Section" of the "Air Conditioning Made Easy" manuals.

Manual No. A-7 is the book for which air-conditioning engineers have been asking, as it gives them in a compact, handy sized (6 x 9 inches) book all the basic data which they need for estimating the load and selecting proper equipment for any installation.

The fundamental data is not only presented in usable tabular form, but along with the 19 tables is given an explanation of how to apply this data.

For example, more than two pages are given over to an explanation of "rules for computing transmission and sun effect," with a complete discussion of how the "lag time" of sun effect should be figured.

Manual No. A-6 has three main divisions. First part of the book is

given over to data and discussions on estimating the load—for both summer and winter air conditioning. At the close of this part of the manual there is a description of "inherent humidity control."

Second division in Manual No. A-6 deals with the selection of equipment. It covers such points as the kind of equipment to be used for varying mixtures of recirculated and fresh air; the proper air velocities; refrigerant pipe sizing; and finally, the various kinds of control systems for humidity control and where they should be applied.

Third division of the book is an appendix titled "Air Conditioning Questionnaire & Load Estimate." In this appendix is given a sample questionnaire (filled out) for a typical air-conditioning job, complete with all load estimates, exemplary sketches, the types of information that should be included (such as current characteristics, locations for equipment, type of heating medium, etc.), and all the factors that go to make up a good field engineering job.

The list of tables in the next column gives a clue to the extent of the basic data offered in the book.

- (1) Transmission, Sun Effect, and Lag Factors for Exterior Surfaces.
- (2) Transmission Coefficients for Interior Construction.
- (3) Outside Air for Heat Gain Calculation.
- (4) Properties of Air for Use in Summer Air-Conditioning Calculations.
- (5) Properties of Air.
- (6) Ventilating Load, Sensible per Hour.
- (7) Heat Gain from Occupants.
- (8) Appliance Load Factors.
- (9) Ventilating Load—Latent Heat per Hour.
- (10) Inherent Humidity Control.
- (11) Properties of Winter Air.
- (12) Approximate Cubic Feet of Air Circulated Through Coil per Ton Refrigeration Capacity.
- (13) Air Mixture Table.
- (14) Air Throw Table.
- (15) Liquid Refrigerant Line Sizes.
- (16) Suction Tubing for the "Freon" System—Allowable Length of Tubing.
- (17) Sample Comfort Air-Conditioning Questionnaire.
- (18) Summer Air-Conditioning Load Estimate.
- (19) Water Heating and Humidifying Estimate.

Manual No. A-7 is a four-chapter book, covering the following subjects: "Load Estimate & Equipment Selection For the Residence & Office"; "Load Estimate & Equipment Selection For Commercial Installations"; "Air Movement—Ventilation Requirements"; and "Design of the Distribution System."

This manual, then, is a guide to the "final step" in air-conditioning field engineering, the application of the engineer's knowledge to a particular type of application.

The chapter covering "Load Estimate & Equipment Selection For Commercial Installation" includes much highly usable information which is not likely to be found elsewhere in such handy form. There is, for example, a table of "heat leakage factors" which gives the factor for a transmission load only, and in another column the factor where both transmission and sun effect are included.

There are also tables which give direct readings of the square foot areas for both plane and window surfaces of various dimensions.

In the part of this chapter on selection of equipment, an explanation is given of each of the steps to be taken in selecting the equipment, with references to the tabulated fundamental data to which the engineer should refer in making his selections. Additional data for this purpose (other than that published in previous chapters) includes a table on "sizes for quiet ducts"; and "air friction table"; and a table on "water pressure drop."

The chapter on "Air Movement—Ventilation Requirements," discusses the reasons for mixing outside air with recirculated air, how this affects the load and equipment requirements, and the best methods of doing it. The part in this chapter on "air distribution" deals principally with the introduction of the air into the conditioned area, the proper air velocities, and the correct location of the supply grille.

Final chapter in Manual No. A-7 is on "Design of the Distribution System" and should be an invaluable aid to the field engineer.

The author—with text matter, drawings, and tables—discusses refrigerant distribution systems, steam distribution systems, chilled water distribution systems, forced hot water systems, gravity hot water heating, and gravity hot air heating.

Last part of the chapter is concerned with air-distribution systems of all types, except that used in some residences or groups of offices, which was covered in a previous manual. The "extended plenum chamber system," the "trunk system for residence," and other methods are explained simply but in enough detail so that the methods outlined can be readily applied in field engineering work.

Manuals Nos. A-6 and A-7 in the "Air Conditioning Made Easy" series sell for \$1.00 each. Other manuals in the series (which also sell for \$1.00 apiece) are Manual A-1 "Summer Air Conditioning"; Manual A-2 "Winter Air Conditioning"; Manual A-3 "Design Engineering"; Manual A-4 "Equipment Development"; and Manual A-5 "Equipment Selection."

Hall Foundry Began As Village Smithy

(Concluded from Page 18, Column 5) number 235, of whom 176 are still full-time workers.

Also, there is a Benefit Trust Fund for the help of those employees who at times need financial assistance.

John Hall, Sr. established the company in 1785 as a blacksmith's shop. A few years later, his business having expanded, he obtained possession of an old tanyard and set up a foundry, which still forms part of the present factory.

On the site of the foundry once existed a priory of the Dominican Order, founded in 1349 by Edward III and destroyed in 1539 by Henry VIII. The latter had a private house built from the remains, and this house still stands, being used as a storage place.

The high, thick walls around the present factory are judged to be from 300 to 350 years old, constructed almost entirely of materials from old buildings.

FOUNDER LEFT QUITE A BUSINESS

Some of the stone has been traced to the Arctic regions, and is said to be part of the 1,500 tons of this type of black stone brought from Baffin Island to England by Martin Frobisher and succeeding adventurers during the reign of Queen Elizabeth.

John Hall, Sr. was quite successful with his foundry, and when he died in 1836 at the age of 71 years he left to his sons John, Jr. and Edward his engineering works, gunpowder works, paper works, and a small vegetable business.

For its first 50 years, the Hall company made steam engines, and in 1836 the design and construction of engines for ships was under way. In the previous year Hall's had built what is said to be the first trunk engine for a ship, the engine having been designed by Francis Humphrys.

Edward Hall managed the company from 1836 until 1875, and under his guidance the business prospered. In 1844 a special gun foundry was constructed to make a number of 20-pounder bronze guns for the Mexican government. These guns subsequently were captured by American soldiers in the Mexican War, and are now displayed at Trophy Point at West Point Military Academy.

A great variety of work was carried on by Hall's under Edward Hall, including a zinc plate rolling mill, sawmill machinery, machinery for making porcelain and plate glass, printing machines, gunpowder making machinery, waterworks, lifts, and many other types of equipment.

When Edward Hall died in 1875, the family's connection with the firm came to an end, and two years later the executors sold the business to Messrs. Beckwith and Burke. Everard Hesketh came into control in 1879.

CO₂ REFRIGERATING MACHINE

In 1887 the company began experimental manufacturing of a carbon dioxide refrigerating machine invented by Franz Windhausen. This type of unit was quickly adopted by the refrigerated cargo vessels, and Hall's was "established" as a refrigeration company.

By 1906 refrigerating machinery had become almost the only product of the works. The manufacture of heavy motor trucks was added to the business, and was not discontinued until 1925.

At this time the company took over a controlling interest in Medway's Safety Lift Co., and the manufacture of the elevators was transferred to Dartford. In 1931, an agreement was made with a German firm to manufacture escalators under the latter's license.

The manufacture of ammonia refrigerating machinery was begun in 1910 as an alternative to the carbon dioxide equipment.

First tests with small-size refrigerating machines were carried on in 1927, and methyl chloride was adopted as the refrigerant. The small machines were given the trade name "Hallmark."

CLASSIFIED ADVERTISING

RATES: Fifty words or less in 6-point light-face type only, one insertion, \$2.00, additional words, four cents each. Three consecutive insertions \$5.00, additional words ten cents each.

PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Air Conditioning & Refrigeration News, 5229 Cass Ave., Detroit, Mich.

POSITIONS WANTED

YOUNG SERVICE Engineer desires position with chance for advancement. Age 28, over 3 years' experience in servicing, selling and installing household and commercial equipment. R.A.C.I. student, honest and dependable. Do first-class work—any type machine. Own car and tools. Western location preferred but not essential. Box 1154, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

ENGINEER WANTED. American corporation considering manufacture and sale household and commercial refrigeration and air conditioning equipment Australia requires competent engineer of wide experience to supervise manufacture, engineering and merchandising. Confidential treatment of applications addressed to Box 1157, Air Conditioning & Refrigeration News.

SALESMEN WANTED

TO AN experienced salesman who wants to get ahead. Why not "step out" into better earnings and a bigger future in the sales organization of the world's pioneer and largest maker of automatic coal stokers? Because of Iron Fireman's 1939 expansion program and important fast selling additions to our line, our authorized dealers in many states have excellent sales openings.

Salesmen are backed by continuous advertising, excellent selling tools, and a complete sales training course.

If you have a clean record, a good sales personality, and are willing to work hard, we will endeavor to place you right now. Tell us fully about yourself and mention your choice of territory. IRON FIREMAN MFG. CO., 3265 West 106th St., Cleveland, Ohio.

EMPLOYMENT SERVICE

MEN—WOMEN—salaried positions \$2,500 to \$15,000. Our system of searching out salaried positions (hiding your identity) increases your salary in line with ability; each client must finance moderate cost of his campaign; if worth \$2,500 to \$15,000 yearly, write for valuable information. NO. 88, EXECUTIVE'S PROMOTION SERVICE, Washington, D. C.

FRANCHISES AVAILABLE

COMMERCIAL LINE refrigerator display cases, walk-in coolers, and refrigerators; also direct draw, mechanically-cooled beer coolers. Sell with Ehrlich compressors or with any other make. Attractive discounts, also financing arrangements to help sell. 70 years in business. Write for full information. EHRlich REFRIGERATOR MFG. CO., St. Joseph, Mo.

BUSINESS OPPORTUNITIES

A PROMINENT Ohio Corporation, well established for many years in the appliance and supply field, and with an organization of wholesale men and dealers covering the state, would like to contact responsible manufacturers who are interested in acquiring the services of such an organization to act as their agent throughout this area. Ample merchan-

dising-warehousing and financial facilities. All replies held strictly confidential. Box 1153, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

CASH FOR your coin meters. Wanted: Any quantity with 15, 20 or 25-cents-a-day gears. Write at once and advise the condition and quantity for sale. State price you expect. Address Box 1156, Air Conditioning & Refrigeration News.

WANTED, any quantity of refrigerator ice cube trays, drip pans and controls, new, used or seconds. Quote quantity and lowest prices. INTERBORO REFRIGERATORS, 350 Pearl Street, Brooklyn, N. Y.

DOMESTIC REFRIGERATORS wanted—cash waiting; for surplus stock. Also late model trade-ins. Quantities only. List types, quantities, price wanted in first communication. GUARANTEED REFRIGERATOR SERVICE, 952 Broad St., Augusta, Ga.

EQUIPMENT FOR SALE

GRUNOW PARTS—R & S PARTS COMPANY opens field to independent service men and former Grunow dealers. Purchase your Grunow parts direct. At reasonable prices. Refrigerant CH₂-CL₂ gallon—\$4.00, compressors exchange—\$11.00, Carrene meters exchange—\$3.00, compressor oil per gallon—\$1.75. Many other items not listed. 3577 Fourteenth Street, Detroit, Michigan.

SACRIFICE. Russ beer equipment. Draft beer is dead in Southern California, so we're caught with a stock of Russ cooling equipment, which we'll sell way below cost. Write for particulars. THE GEORGE BELSEY COMPANY, LTD., 1001 So. Hope, Los Angeles, California.

250 BRAND NEW Frigidaire compressors in original cartons, suitable for 1/4 and 1/2 H.P. highspeeds. Specifications: Frigidaire part No. 1125-312, twin cylinder, complete with flywheel; bore—1 1/2", stroke—1-7/16". In single lots—\$10.50; 10 or more—\$9.50; 25 or more—\$9.00. F.e.b. New York City. REFRIGERATOR CORPORATION OF AMERICA, 390 Fourth Avenue, New York, N. Y.

ISOBUTANE. Highest quality Isobutane at lowest prices in the country. Write or wire for quotation. STANDARD REFRIGERATION CO., 1148 Dohrman St., McKees Rocks, Pa.

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CONTROL REPAIR service. Your controls repaired by expert mechanics, with special precision equipment. Supervised by graduate engineers. We stress perfection and dependability before price. One year guarantee on domestic controls. Any bellows operated device repaired. HALETRIC LABORATORY, 1793 Lakeview Road, Cleveland, Ohio.

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PATENTS

HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

Chieftain

New Heavy Duty Commercial Units

With excess capacity, ruggedness and pleasing appearance. See your local jobber.

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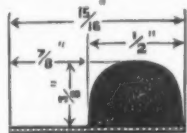
Dept. AR, 6 E. 45th St., New York, N. Y.



A NEW REFRIGERATOR DOOR GASKET

1350-N Line—NOW a GREASE PROOF covering firmly anchored to a resilient Sponge Rubber Cushion with a substantial tacking flange. Also made in 1/2" cushion height.

Many types in molded or extruded rubber and in Rubberized fabric coverings available for original equipment or replacement use.



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JARROW PRODUCTS CORPORATION

Factories

Chicago & Grand Rapids

WATER COOLING EQUIPMENT FOR AIR CONDITIONING

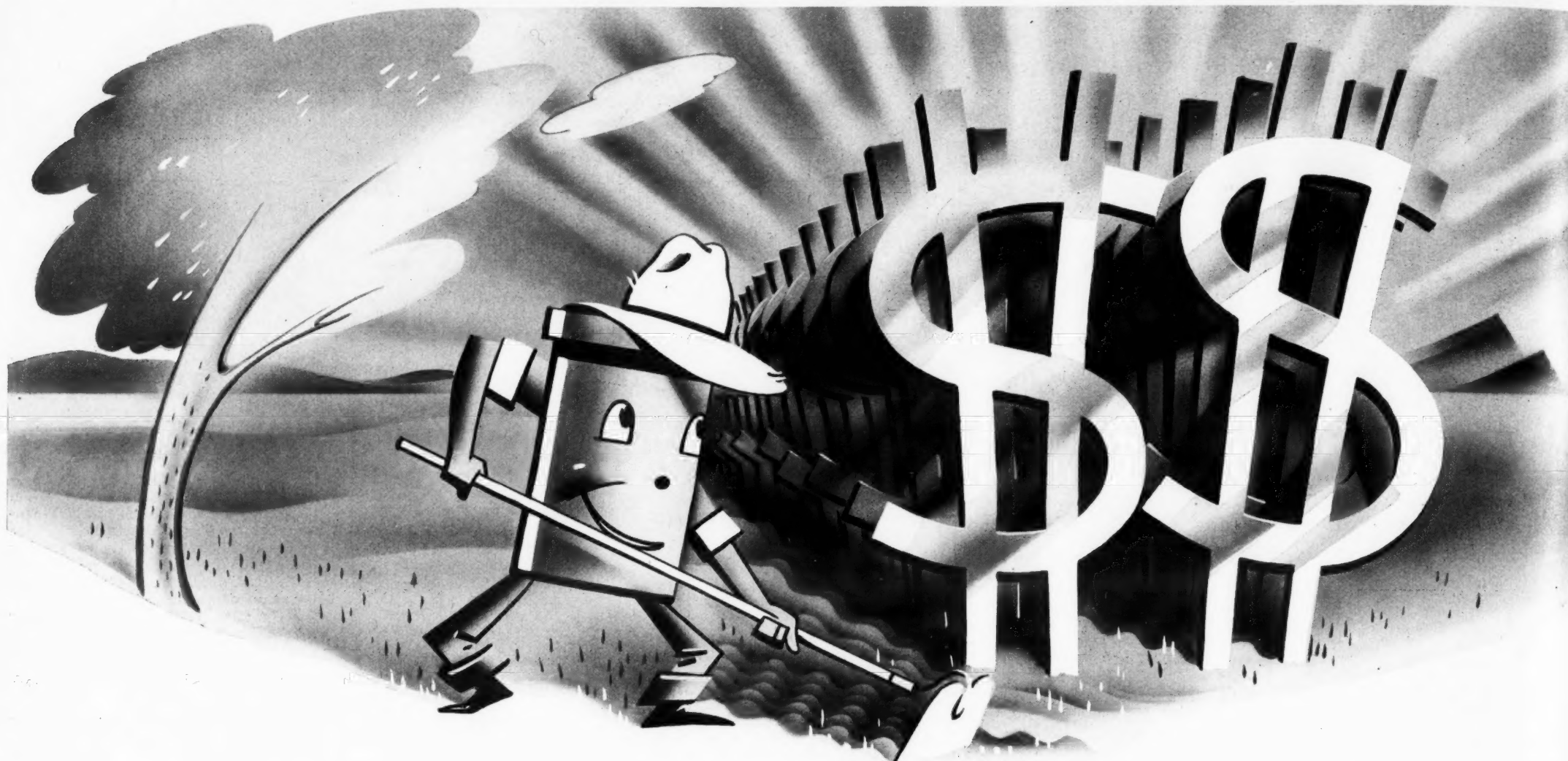
WE BUILD ESPECIALLY FOR YOUR OPERATION

ASK FOR LITERATURE ON DRY-EX COOLERS

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Save time and money by looking in the Henry Catalogs first. Write for your copies.

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HENRY PRODUCTS ARE COMPETITIVELY PRICED. As a clinching advantage, you can buy them at no added cost. Standardize on Henry, and watch your profits grow . . . and grow . . . and grow.



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Easy to refill with new dehydrant cartridge.

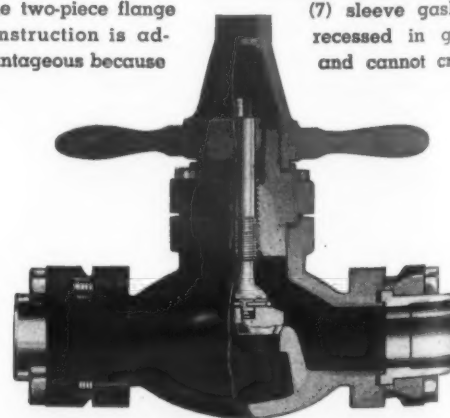
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For Copper Pipe.
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Equipped with patented, rotating, self-aligning, easy-seating stem disc which, with special resilient packing, back-seating construction, long stem travel and unrestricted flow make them particularly adaptable for refrigeration and air conditioning. Available with screw ends, solder connections or companion flange construction.

The two-piece flange construction is advantageous because

(1) pipe or tubing can be soldered without heat being transferred to valve seat; (2) valve can be easily removed from line; (3) lineup is easier because companion flange rotates on sleeve; (4) flanges are distortion-proof; (5) small mass of metal in sleeve to heat when soldering or welding; (6) tongue machined on end of sleeve fits securely on valve body; (7) sleeve gasket is recessed in groove and cannot creep.



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